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LECTURES
ON
COMPARATIVE ANATOMY
AND
ANIMAL PHYSIOLOGY,

DELIVERED BY

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LECTURE XIV.

ON THE OSTEOLOGY OF AMPHIBIOUS ANIMALS OR BATRACHIA.

THE amphibious animals to which we now come, commence their career as fishes; they have one auricle and one ventricle; they breathe at first by means of gills, and solely by means of gills; every globule, then, of their blood is sent through the gills. What other characteristics have you of fishes? Is it their organs of progressive motion? The tadpole has them as well as the fishes. The perpendicular tail, and the fin-like expansion above and below, you have in the tadpole as well as in the fishes. In every respect, from their nervous system, through all their less important systems, amphibia present the condition of fishes on beginning their career, and as all metamorphoses in organic forms are from simple to compound, they approach to the condition of reptiles in their more advanced condition of development. Indeed we observe all animals, as well as amphibia, beginning their career with the form of an inferior grade of development. The animalcules themselves are ascertained to pass through various forms, increasing in complexness, which used to be regarded as distinct genera, and the limits of their singular changes are not yet known. The porifera and zoophytes begin their career as free moving animalcules, insects pass from the simple condition of worms to become winged inhabitants of the air, and gasteropods are at first, on escaping from the ovum, ciliated rotiferous animalcules. From the striking changes of these amphibia or batrachian animals during their metamorphoses, SWAMMERDAM was induced to classify them beside insects. But the extent of internal metamorphosis corresponds with the degree of elevation of an animal in the scale, and man, at the head of all, exhibits the greatest metamorphosis, in ascending from the condition of the monad to surpass all other organic forms.

From this semi-aquatic life of the amphibia, which caused them to receive this name, we find their skeleton to partake of many of the characters most peculiar to the class of fishes. In tracing animal forms upwards to more complex conditions, we often pass, as in the present class, from the inhabitants of the water to those of the dry land, and the lowest forms of a class are generally aquatic species. The batrachia or amphibia, which reside constantly in the water, retain more completely their primitive fish-like form than those which leave that element in their adult state. The difference of the medium in which they live, affects chiefly the forms of their respiratory organs, and those of progressive motion. The skeletons of amphibia come nearest to those of fishes in the thin, diaphonous, elastic character of their bones. Preparing to support the trunk in a more attenuated medium, we find here the arms and legs, the analogues of the pectoral and ventral fins, assuming a more complex and perfect development. They form the connecting link between fishes and reptiles, and thus lead us to osseous structures, so remote from their primitive forms, that without these intermediate links, we should have much difficulty in tracing them to their origin in the vertebral column.

As we ascend from fishes through the

cold-blooded, air-breathing, vertebrated animals, the texture of the bones becomes, from the greater abundance of insoluble phosphates, more compact, less transparent, firmer, and altogether more solid and ossified. Notwithstanding this, we find that, particularly in the skull, the centres of ossification for the most part remain permanently detached. But we can see traces of their tendency to anchylosis and union, for in place of the bones shooting over each other as in fish, here they are inserted into each other, or they meet with flat surfaces, which is a prelude to the sutures,—a prelude, in many of the bones, to their actual union by anchyloais to each other; so that we shall hereafter, when we come to hot-blooded animals, have many of those bones grouped together, and united into one mass, particularly in the bones of the skull. So we shall find, for instance, that all the elements composing the first cranial vertebra unite in the hot-blooded classes, and form one bone surrounding the occipital foramen —the occipital bone expanded to encompass the medulla oblongata and the cerebellum. The sphenoid, and other bones of the cranium, composed originally of numerous distinct elements, which, in the cold-blooded vertebrata, remain permanently detached, have these elements united and grouped together by constant, uniform, but mysterious laws, so as to constitute those aggregates to which we give the names of sphenoid, ethmoid, temporal, &c., in the mammalia and in man.

In the lowest of these amphibious animals, the bones contain most animal matter, are most soft and flexible, are most detached from each other and moveable, have their elements most disunited, and the whole skeleton is least perfect and most fish-like in its form. This we see in the anguilliform bodies of the *proteus* (W^*), the *siren*, the *amphiuma*, where the skeleton consists of a vertebral column almost without extremities. And what use had they for more in the water? Look to those intermediate creeping tadpole forms of the *axolotl*, the *menobranchus*, the *triton*, where the legs and arms are further developed, how much their coccygeal vertebræ are still developed for their progressive motion through the water. Those which leave the water and their water-breathing organs to assume a terrestrial life, as the *frogs* (S^*), *toads*, and *salamanders*, have their extremities more developed to support the trunk in the thin medium of the air, and their vertebral column the most remote in its general form and in the structure of the separate elements of each vertebra, from that of fishes. Indeed we are led almost to the lizard forms of *sauria* by the round-tailed land salamanders, which pass through their larva state in the body of the parent, and not in a watery medium. So that frogs and toads, the highest of the amphibia, like the highest of the class *crustacea*, pass through the inferior forms of their class before they arrive at their perfect adult form.

These tail-less amphibia, the toads and frogs (S^*), are the animals of all the vertebrata which in the adult state have the smallest number of vertebræ.

These vertebræ in the common frog, *rana esculenta* (S^*), have, you perceive, the bodies largely developed, and the elements which we have already considered to surround these bodies but imperfectly developed. We shall see a reason for that presently. We have here the first vertebra ($S^* b$); the atlas without transverse processes, and presenting the means of a firm articulation with the two lateral condyles ($S^* a$) of the occipital bone. This appears remarkable when we observe it in connexion with the kind of articulation which we perceive between the atlas and the occipital bone in fishes. Were we simply to announce that in the frog the two condyles of the occipital bone unite with the two corresponding grooves in the atlas, it might appear that the structure was like that of the human atlas, but it, in fact, is much more like the atlas of a fish. It does not present that ring-like form which you see in the mammalia and in birds, but forms here a pretty large and solid body, at the sides of which we find the articular surfaces for the two condyles, or the two condyloid portions of the occipital bone; because we have not yet come to those two elements united. The two condyloid portions of the occipital

bone are here anchylosed to the divided basilar bone.

We observe that the succeeding vertebræ of the column, of which there are in all nine, have the transverse processes pretty largely developed. At the extremity of those transverse processes we have no distinct portions developed, unconnected with the transverse processes, so as to constitute ribs. Although this is the case with the frog, yet you can see in the *salamander*, the *proteus*, and even the leg-less *siren*, that there are small portions developed from the ends of the transverse processes to which we give the name of ribs. The ribs, however, in all these species of amphibia are small, straight, rudimentary bones, like those which we see on the lateral parts of the sharks, and the cartilaginous fishes.

These vertebræ present a means of firm articulation with each other. The laminæ which develop the articular processes have here developed these processes to a much greater extent than you find in the class of fishes. Now we observe, that these vertebræ commenced by being like the vertebræ of fishes, with a cavity before and a cavity behind their bodies. The body presents a concave surface before and a concave surface behind; so that when two of these vertebræ met in the tadpole condition of the frog, they had their large space between them filled with the soft intervertebral substance that we saw in fishes. As the animal, however, advances to maturity, we observe this intermediate soft part gradually to become consolidated, to become ossified; and at length it unites in a solid state with the body of the vertebra, and changes altogether the character of the vertebra from that of a fish to nearly that of a reptile. The transitions of these bodies of the vertebræ, even before arriving at their fish-like constitution, is interesting. They commence, as in fishes, by forming ossified rings, which are hollow in the middle, which have a vacant space in the middle, that is gradually filled up by layers like those of a tree, by concentric layers, added the one within the other. By this gradual filling up of the body of the vertebra by smaller and smaller concentric layers, the one within the other, it arrives at its fish-like condition; and from that condition, by the gradual ossification and anchylosis of the intervertebral substance, it passes from the fish-like condition to nearly that of a reptile, with a convexo-concave body. The most common character of the vertebra of a reptile, is to terminate in a ball at the posterior part of the body, which is received into a cup-like cavity in the anterior part of the body of the next vertebra. Therefore we see that in the vertebral column of the frog there is a march from the condition of that of a fish to nearly that of a reptile. In the adult state of the frog, therefore, we find that the bodies of the vertebræ have a lengthened form, and terminate anteriorly with a deep concave surface, and posteriorly with a prominent convex surface; but there was no such structure as this in its tadpole state, when it was in the condition of a fish.

Now there are many of these amphibious animals, such as the axolotl, the menobranchus, and the proteus, which inhabit the lakes and marshes of Mexico and other parts of America, that never change their tadpole state through the whole of life. Those animals breathe by gills, as you see in this axolotl that I hold in my hand, which have the branchial arches largely developed, and hanging externally from the sides of the neck, so that this is a tadpole without metamorphosis. The transition, then, from the water-breathing to the air-breathing vertebrata is gradual and almost imperceptible, from fishes to the amphibia, in many of which the branchiæ are entirely lost. Those that retain their branchiæ retain the vertebral column in this fish-like condition. The bodies of the vertebræ of those animals are, through their whole life, like those of fishes, with a cavity above and a cavity below; with a soft intervertebral substance which fills a large cavity, producing that tense elastic ball, which we have seen placed between the vertebræ of fishes, composed of a membrane densely filled with a soft substance, over the convex surface of which the bodies of the vertebræ play, and which gives great mobility and elasticity to the whole column. This, in fact, is shown in this axolotl as it is in fishes, for their body is, in like manner, lengthened backwards, and they have their coccygeal region pinniform, and directed vertically downwards, in order that they may move laterally and strike the water backwards to impel them forwards in their motions through that element. This is a direction of the coccygeal region which corresponds, as in fishes, with the aquatic nature of their respiration.

Animals that breathe atmospheric air in a pure state must come to the surface, and therefore we see that in this grampus and all cetaceous animals, the coccygeal region terminates in an expanded horizontal tail.

You observe that the ninth vertebra (S^9 *c c*) of the frog has its transverse processes remarkably developed; that they are both larger and longer than those which precede them; that they have assumed a

cylindrical form to give them greater strength, and that they present at their extremity a distinct articular surface for the iliac bones (*S* e, e*). This is a theme of exceeding interest in the osteology of the first class, which has the legs articulated to the vertebral column, and we might dwell for a long time in tracing all the interesting analogies of this structure of the last vertebra of the frog. Here you see the rudimentary condition of the sacrum. We explained yesterday how there could be no sacrum in the vertebral column of a fish, any more than there could be in a cetaceous animal. Here, however, parts of the pelvis shoot up and are attached to the sides of this last vertebra, which attachment gives a new stimulus to its development. Two bones, formed like a pair of ribs, are observed extending downwards from its sides,—the two iliac bones, which have an attachment to the extremity of this sacrum or last moveable vertebra, an attachment so slight at all times, that there is a perfect mobility, that the sacrum moves freely upon the two iliac bones. This is just the next step to having no sacrum at all, but as it does give support to the two iliac bones, to the whole pelvis, and consequently to the two posterior extremities, it has, in fact, all the properties and advantages of a sacrum. We shall see in the very next class of animals, that their two vertebræ very frequently unite, anchylose, and form a sacrum; then we shall ascend through more complex forms of the sacrum, until we shall have more than twenty vertebræ anchylosed together to form a sacrum in birds.

But to consider this matter in connexion with what we were observing yesterday regarding the posterior extremities of fishes:—We observe that the legs of fishes, or their ventral fins, are never articulated to their vertebral column, so that they can be placed far back, in the middle, as far forward, and even before the arms. Now this is the next step to the condition of the pelvis of fishes, which we see in this pelvic arch of the *proteus* (*W* k*), where not a single vertebra has its transverse processes modified to receive the iliac bones, or give any support to the posterior extremities; and the same seems to have been the case with some of the extinct forms of reptiles higher than amphibia, which inhabited the estuaries of ancient seas, as in the skeleton of the plesiosaurus, showing, still, an inferiority in the aquatic forms of all the classes. In those amphibious animals, as in this proteus (*W**), which never lose their gills, we observe that the vertebral column retains the same freely moveable character throughout its whole extent, from the atlas to the posterior point of the tail; that the coccygeal vertebræ lose gradually their surrounding projecting elements, until they leave us at the extremity only with their central element, the body of the vertebra. That all these processes, the transverse processes, the articular processes, the spinous processes, are all of them gradually diminished and removed, until even the laminæ which bound the canals themselves above and below, are gradually diminished and lost, leaving, therefore, an open passage below and an open passage above, for the vascular and the nervous systems, and until those laminæ which bound the canals are left only as solid tubercles on the sides of the bodies of the vertebræ, forming the tubercles we have by the sides of the canal above and the canal below. Those little tubercles, the rudiments of the four laminæ, also disappear, and leave only the cylindrical bodies; so that we see, by going along these numerous vertebræ, that we are left at length solely with the parts which are of most importance to give strength and mobility to the whole of this flexible region of the body.

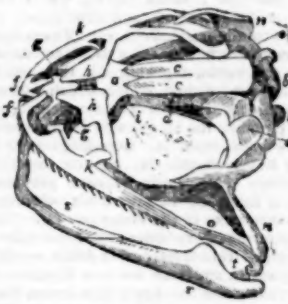
You observe, then, that it is in the lowest of the amphibia that the coccygeal region is thus extensively developed next to fishes, which fishes have it always large and long; indeed in some instances to so great an extent is it developed, that much more than half of their vertebral column consists of coccygeal vertebræ. Now that is interesting, because, as we are ascending from the fish-like form of vertebrated animals to their air-breathing reptile condition, we see that we are losing the whole condition of the skeleton common in the class of fishes, to come to those forms of all the parts best suited for a terrestrial life met with in the reptiles. But it is interesting to trace those analogies even up to the structure of man himself. Man begins by being formed with a vertebral column like that of aquatic animals, and great part of his development runs rapidly on while he is yet in this aquatic condition, enveloped everywhere by fluid in which he is suspended and floating. Now it is curious to observe that even man in that condition has neither arms nor legs for a considerable time, but that his vertebral column shoots out into a series of coccygeal vertebræ, and terminates in a projecting pointed tail, as you well know, and as you see figured in these plates of Tiedemann and of De Serres.

Now then we perceive that this projecting termination of his vertebral column is gradually diminished, and that a number of his original moveable coccy-

geal vertebræ disappears, two or three are lost in the course of his development, when his arms and legs are beginning to bud out from his sides. It is beautiful to trace this same phenomenon in the lower animals taking place upon a large scale, and to see what close analogy man has with the tadpole condition of these amphibious species in his coccygeal region at this early period. But in the adult frog we observe a remarkable change has taken place in these terminal vertebræ. The adult frog that has all its coccygeal vertebræ now united into a solid undivided piece (S^{*} *d*), had at a former part of its life, throughout its tadpole state, a great number of separate, moveable, coccygeal vertebræ, much more than double or treble the number that it has in its whole vertebral column in after life. It had these coccygeal vertebræ projecting from its sacrum, and all moveable upon each other. These moveable coccygeal vertebræ, which I now present to your view in this large tadpole of the *rana paradoxa*, gradually disappeared, they became absorbed; the whole tail became smaller, diminished, appeared to shrivel up, became absorbed, and was gradually carried into the vascular system, and removed, like other decayed parts of the system, by the excretions. This is not a case like the shedding of the antlers of the deer, which have their vitality cut off. The tail of the tadpole does not drop off and fall to the bottom of the water. There is a beautiful arrangement for that purpose in the solid parts of the skull of the deer; those developed tuberosities of the frontal bones which we see shooting out from the head of the deer, become, by the obliteration of their arteries, extra-vascular bodies, the antlers lose their sources of nutrition, and of course are undermined and cast off; but the parts that we are now speaking of in the skeleton of the amphibia are very different; they are throughout organised parts, and are gradually absorbed and removed as they become less useful and less required for progressive motion.

The posterior, then the anterior, extremities make their appearance, and these extremities become at length the sole organs of progressive motion as the animal comes to the banks of the river, or of the pool of water, and the tail gradually shrinking, appears in the form of a long, cylindrical, solid bone (S^{*} *d*), protecting the back part of the pelvis, and without internal canal for the passage of the spinal chord. And while these changes are taking place in the coccygeal vertebræ of the anurous amphibia, the laminæ of the dorsal vertebræ are expanding and extending backwards their articular processes in an imbricated manner over each other, so as to secure the articulations of the back; the bodies of the vertebræ are becoming strengthened by the ossification and anchylosis of the intervertebral soft substances, and the transverse processes are extending laterally, like ribs, for the protection of the trunk and the attachment of powerful muscles.

(T^{*})



The bones of the head (T^{*}) of amphibia are almost as detached and moveable as in any osseous fishes. The occipital bone has a secure articulation by means of two prominent condyles (T^{*} *b*, *b*), which belong to its divided basilar portion, which is here bisected by a suture, as you see in this common green frog, *rana esculenta* (S^{*}). The two parietal bones (T^{*} *c*, *c*) which you observe anterior to the occipital bone are largely developed. They are largely developed, not only in the amphibious animals, but in all the reptiles. We shall see, in the next class of animals, both in the serpents and in the saurian reptiles, that these two parietal bones early meet and anchylose, so as to form one solid arch over the surface of the brain. The only solid part you see in this moveable skull of the serpent, is the solid arch formed by the anchylosis of the two parietal bones. You see these bones largely developed and lengthened in their form here, as in fishes. The brain of fishes, and particularly the cranial cavity, has a lengthened form. It has to contain many other parts, besides the brain itself. It contains a considerable portion of the course of the nerves; it contains that glairy arachnoid substance in large proportion which we see filling the cavity of the skull of fishes; it contains the organs of hearing in the osseous fishes; it gives a large space for the attachment externally of many powerful muscles, and it covers the vestibule and the semicircular canals; it has thus a lengthened form in

these lowest vertebrata, and that lengthened form is chiefly given by the development of these two parietal bones, and by the lengthening of the body of the sphenoid bone.

Many of the bones of the head that we find united together into a solid mass in the higher animals, are here in the frog detached permanently. The anterior frontals (T^* *h*, *h*) are quite detached from the two posterior frontals (T^* *a*), which are here united into one, and articulated by suture to the parietals (*c*, *c*). These two anterior frontals (*h*, *h*) extend outwards and backwards, tapering till they reach the large pterygoid bones, which extend forwards from below the tympanic (*n*). You perceive the lengthened slender form of the jugal bone (*o*) extending forwards from the tympanic (*n*) to the superior maxillary (*k*), which is here provided with a range of minute teeth, although there are none in the lower jaw (*s*). The two intermaxillary bones (T^* *f*, *f*) are here developed transversely, as in fishes, as well as upwards, and, like the two divisions of the vomer and the upper jaw-bones, they are provided with small osseous teeth, like those of fishes, which produce a minutely serrated appearance in these parts of the skull.

The cavity of the cranium (T^* *c*, *c*) here occupies but a very small portion of the great breadth of the head, which is chiefly extended laterally by the upper and lower jaw-bones, leaving a large square vacancy between the skull and the upper jaw on each side, which you see to a less extent in the higher reptiles, recent and fossil. The extension laterally of the tympanic (T^* *n*) and jugal (T^* *o*) bones, throws out the posterior ends of the lower jaw, and they produce a condyle, which is extended downwards, and received into a glenoid cavity of the lower jaw, as in fishes and most reptiles.

The lower jaw is separated at the symphisis, and each lateral division consists of three pieces, an anterior (T^* *s*), a middle, (T^* *r*), and a posterior portion (T^* *t*), which form a wide and very slender arch on each side, entirely destitute of teeth in the frog, although there are teeth here in the lower jaw of the *salamander* and the *proteus*. You can feel with the finger the roughness produced on the upper jaw by these very minute, sharp, recurved teeth. The peculiar form of the tongue, which is best adapted in the frog, by being bifid and curved backwards, for seizing the larvæ and the worms that are creeping upon the plants on which it feeds, renders it more advantageous to have the teeth in the upper jaw of the frog than in the lower. Here then are six bones which present teeth in the upper jaw of the frog, the two superior maxillary bones (T^* *k*, *k*); the two intermaxillary bones (T^* *f*, *f*); and the two divisions of the vomer.

Now as we are proceeding upwards through the animal kingdom in tracing the development of these parts, it does not surprise us to find teeth in the vomer, for in fishes we have already seen them in every bone in the mouth; not only in the upper and lower jaws but in the palatine bones, the os hyoides, on the tongue itself, on the pharyngeal bones, on the branchial arches, and all parts of the mouth. Here, however, you perceive they are becoming more circumscribed in their distribution, and by-and-by we shall come to serpents and lizards, where they are confined to the jaw-bones and the palatine bones, and at length in crocodiles and mammalia they are confined to the intermaxillaries and the jaw-bones alone.

There are no ribs developed from the extremities of the transverse vertebral processes in the frog (S^*). This appears to be principally dependent on the long use that is made of the branchial ribs or the branchial arches during the long-continued aquatic respiration of the tadpole. A great part of the vital energies of the frog is expended in forming a fish, and to keep up that fish-like condition through that period of its life when the development in all its systems is most active. It is then that we find it with its four gills on each side shooting out, largely developed, with its branchial arches and complicated os hyoides all perfected as in the fish. But this to the perfect frog, though at first so necessary and complete in the tadpole or larva state, we would say, (were we not to perceive the beautiful relations of all these deciduous parts to the early habits of the animals, to its food in the first condition, to its safety, and to the purposes it has in the great economy of nature,) was expending its vital powers for a useless purpose in forming such a complex apparatus which it must afterwards lose.

These branchial arches are connected with the posterior part of the os hyoides. The os hyoides is at first complicated and greatly developed in the frog, and is connected behind with all the branchial apparatus; but as it advances in the metamorphosis, the branchial arches are gradually softened and absorbed; they are softened, and you perceive they gradually lose many of their parts, becoming more simple in their form till they disappear, and the os hyoides is reduced to the simple adult condition which it retains in after-life. But while all this is going on, and there is no necessity for the development of ribs,

the animal breathing by means of gills, it is not exerting those two cellular sacs, which it contains within the cavity of its abdomen, and which it is to employ in after-life for the purpose of respiration. When it comes to be an animal residing upon the dry land, and breathing by lungs, it has passed the time of life for developing new bones from the transverse processes of the vertebræ, to be connected with the expansion and contraction of the trunk to protect the chest, and to serve for the play of the lungs. All that period has passed; therefore you see that even those amphibious animals which have the ribs most perfect, as the salamanders, have them only in the form of small rudimentary short tubercles, or spines, at the ends of the transverse processes of the vertebræ, because of their respiring for such a length of time only by means of their branchial arches.

We have to come to some curious considerations regarding the changes which occur in this branchial apparatus when we come to speak of the development of the vascular system, and the important changes that take place in the vascular system in frogs, in changing from the circulation of a fish almost to that of reptiles.

As connected with the imperfect development of those bones which extend from the transverse processes of the vertebræ in the amphibia,—the ribs—we saw yesterday that for the support of the arms or atlantal extremities in fishes there was an arch formed by the scapula on each side, and the coracoid portion of the scapula, running down to meet in front, this arch, which is formed for the support of the arms or the pectoral fins, does not in fishes derive any support from ribs, for these are only thin, slender, flexible spines, often bifurcated at the ends of the transverse processes. That is precisely the kind of attachment which the arms of the frog and all the other amphibia have through the whole of life. You will perceive that the anterior extremities (S^* *h*, *h*) are here supported upon an arch composed of the scapular bones, but that this arch is not connected with the vertebral column, not even with the skull, as we find it so generally connected in the class of fishes. The two bones that extend from behind—the two scapulæ—you have seen to assume the form of ribs in fishes. We saw those two bones yesterday, forming the third arch in the lower part of the head in fishes, in the form of ribs—slender arched bones—the two scapulæ with their coracoid portions considered as one with the scapulæ, and they are analogous to ribs in their origin and nature. This is a little deviation from the primitive form in fishes, for here in the frog (U^*) the scapula (U^*, f, f) upon the back part (U^*, i, i) is expanded; it is in this part still soft and flexible, and but imperfectly ossified, and the soft condition of this part you will be able to see in the specimen of the scapular arch of the frog before you (U^*, i, i). The figure which I now show, and which I have drawn upon this very large scale, I have taken from the specimen which I hold in my hand, so that you may be able to compare and more easily comprehend each part.

You will perceive that the back part of the scapula (*i*, *i*), as exhibited, is thin and flexible, and is not ossified. Where it meets with the solid part ($U^* f, f$), it produces the appearance of an articulation,—the same thing which you observe in many cartilaginous fishes; that the posterior part is not connected with the anterior part of the scapula. Nothing is more common than to meet with separation of the two portions of the scapula in the extinct forms of swimming saurian reptiles. In the frog there is formed a sort of glenoid cavity (U^* *k*, *k*) for the head of the humerus, but the coracoid portion (U^* *e*, *e*) of the scapula continues downwards; and before it reaches the sternum (*d*) it expands into a broad large margin; and this coracoid portion (*e*, *e*), which extends downwards, together with the ossified scapular portion (*f*, *f*) and the clavicle (*c*, *c*), form the glenoid wide arch or cavity for the head of the humerus. Here the whole scapular arch is enormously developed, and we had it enormously developed yesterday in both the cartilaginous and osseous fishes in proportion, and in both cases this depends on the want of any support from ribs for the atlantal extremities. This coracoid bone, though here detached, you know in higher animals, with warm blood, belongs properly to the scapula. We have a bone on each side (U^* *c*, *c*), slender in its form, insinuated between the scapula and the bones of the sternum (U^* *a*, *b*, *d*, *g*, *h*), occupying precisely the position of the clavicle, and regarded as such. These two clavicles (*c*, *c*) are but small and slender bones, straight, narrow at their proximal ends, enlarged at their distal extremities, where they are inserted between the scapula and the coracoid bone, so as to form a part of the glenoid cavity. We observe, then, that this scapular apparatus, with the median portions of the sternum (U^* *a*, *b*, *d*, *g*, *h*), forms the circular arch which is to support upon

each side of it, in the frog and many similar amphibia, the anterior extremities for progressive motion upon land; the posterior extremities are the organs chiefly employed by those animals in the water. The central part of the scapular apparatus, extending along the lower part of the abdomen, is formed by a longitudinal chain of bones composing the sternum. Although here they appear united, they were divided upon the median plane, excepting one, which appears, if ever it was divided, to have united at a very early period; and in higher forms of reptiles, we shall see that the sternal bones do remain permanently separate. We have got two united together in the upper part (U^* *a*) of the sternum, which are very thin and flexible. The two pieces of the upper part are called the *epi-sternal* bones (U^* *a*), forming a round piece of soft, thin bone. Geoffroy St.-Hilaire has given names to the separate bones of the sternum, which are very useful and appropriate. Below this there are two bones (U^* *b*) also united, which appear to correspond with the two *hyo-sternal* bones. Below these two hyo-sternal bones is the *ento-sternal* bone (U^* *d*), to which both the clavicles (*c*, *c*) and the coracoid bones (*e*, *e*) are attached. Beneath the ento-sternal bone there is another pretty large bone, composed of two lateral pieces; the *hypo-sternal* (U^* *g*) bone, and then the lowest two united large pieces, which you know in the human sternum compose the ensiform or xiphoid cartilage, is the *xiphi-sternal* (U^* *h*) bone. This then forms a pretty complex series along the middle of the lower part of the trunk of the body, corresponding with the chain of vertebral bones above, like an inferior median column.

In the arms of the frog (S^*) we have organs but little developed, compared with the legs. The humerus (S^* *h*) is a short strong bone; the radius and the ulna (S^* *i*, *i*) are anchylosed into a single bone. It is interesting to observe this early and complete anchylosis of two bones so important as the radius and the ulna, which we perceive often also in fishes. We know that at an early period in the frog they are detached, and we can always see the groove of their original separation, even in the adult animal. The bones of the carpus, the metacarpus, and the phalanges of the fingers, form but a feeble organ of progression compared with the foot.

Here the posterior extremities are fixed to a pelvic ring, composed of the ordinary bones of the human pelvis. We perceive two of these bones (S^* *e*, *e*) of a lengthened form, distant at their upper extremities, converging and meeting below, attached by a moveable articulation to the sides of the transverse processes (S^* *c*, *c*) of the last moveable vertebra, or the sacrum. These are the two iliac bones, shooting down still in the form of ribs, showing their origin from the column, and their analogies. You perceive they hang from the side of the vertebral column, and all the arches which we have seen hanging from the vertebral column have begun their development like ribs. The jaws are like them in the fishes, the os hyoides, the pharyngeal bones, the branchial arches, the scapular bones, the true ribs. There are everywhere simplicity and unity of plan in the origin and development of all the parts which are superadded, in order to elevate organizations to more complex forms.

These two iliac bones do not compose the whole of the pelvis, though they might at first appear to do so; for, upon watching with attention that cor[illegible] part (S^* *f*) which you will per[illegible] ing the posterior and inferi[illegible] pelvis, you can, by macer[illegible] see sutures, and that it[illegible] three distinct bones or[illegible] hind are the two bo[illegible] with the two ossa ischii [illegible] pressed and rounded f[illegible] rior part there are tw[illegible] bones,—the two pubic [illegible] are attached the two ili[illegible] if you were to examine [illegible] tabulum,—the cotyloid ca[illegible] of the femur,—you woul[illegible] as in the human cotyloid ca[illegible] bones entering into its formati[illegible] side,—the ilium, the ischium, and [illegible] bis; so that we have now arrived at a m[illegible] complete pelvis than any we saw in fishes, although it is still freely moveable on the sides of the vertebral column.

We observe that the anterior and posterior extremities are generally very imperfectly developed in the animals of this class, as in the preceding, for these are not the organs that are first or most required in progressive motion. In the condition of the fish it is the tail part of the vertebral column that is the principal and the most powerful instrument for progressive motion; and in the tadpole condition of the higher amphibia, and throughout the whole life of the aquatic genera, still the tail is the principal organ for progressive motion. Hence it is that in fishes the arms and the legs are so small and imperfectly developed; because their powerful instrument for progressive motion is the posterior part of the vertebral column which is largely supplied with muscles—all that is necessary to ensure a powerful and exten-

sive motion. You will observe, that in the skeleton of the proteus (W^*), the scapulæ (W^* *g*) still form a loose arch, and have their posterior part unossified, and separated by a suture from the ossified portion below; the ossified portion shoots down to the glenoid cavity for the reception of the head of the humerus, and the coracoid bones (W^* *f*) are large and expanded in front. In the posterior part of the trunk we observe the iliac bones (W^* *k*) shooting down from the sides of the vertebral column, expanded in their upper part, and cartilaginous like the scapulæ (W^* *g*), shooting down and forming an arch by their expanded junction in front, and this arch is composed of the ordinary pelvic bones, the ischium, the pubis, and the two iliac bones. In the skeleton of the siren of America, which has no posterior extremities nor pelvis, the scapular arch is formed in the same way, by a semi-ossified divided posterior scapular portion to the glenoid cavity, and a very ...ded anterior scapular portion. ... of these two aquatic species ...le vertebra behind the skull in ...ondition, or with its transverse ... modified in any way to give a ...attachment to posterior extremities; that their extremities and their column are in the free condition of those of fishes, and not like those of land amphibia, where these feeble extremities of the aquatic species become much more developed, and supply the place of the tail as organs of support and of progressive motion.

The posterior extremities of the frog are rather anomalous in their structure and appearance. We see that they are developed to an extraordinary degree compared with the anterior extremities. They are organs of progressive motion which are of far the most importance in the leaping movements of the frog on land, and to give a vigorous impulse to the water when the animal betakes itself to that element. These extremities begin by a long femur (S^* *l*). There succeeds to the femur another long single bone (S^* *m*); and if we were to examine the osteology of the frog as an isolated being, without any views of analogy, or without examining the modifications of form assumed by the same bones, we might, perhaps, be inclined to say, that the two next bones (S^* *n*, *o*) that succeed to this second single bone, are the tibia and fibula, for they have both a lengthened form, and are parallel to each other. The second bone (S^* *m*), however, although single, was in this animal originally composed of two separate bones, the tibia and fibula (S^* *m*), and the line of original separation is still perfectly visible, although they are now completely anchylosed together. They have anchylosed, and, like the radius and ulna (S^* *i*, *i*) of the forearm, they have formed a single bone. The two bones that succeed have a lengthened form, but what of that? Whether they were cubical, spherical, compressed, filiform, or cylindrical, or any other form, bones can assume any forms that are necessary. We find the bones of the fingers in bats to be lengthened out like wires, which is the best form for their purpose; in the moles, again, they are short, compressed together, and of a cubical form, but what of that as to their nature? So have we here the *calcaneum* (S^* *n*) or os calcis, and the *astragalus* (S^* *o*) presenting a lengthened form; and all this gives flexibility, and at the same time strength and an expanded surface for the posterior extremities to strike the water in swimming. Then succeed other four small bones of the tarsus, and the bones of the metatarsus (S^* *p*), which are lengthened. The phalanges of the toes are also very much lengthened, to support the interdigital membrane of the feet. There are only four fingers distinctly developed on the hand, but five toes on the foot; so that altogether the posterior extremities are those which are most developed and most required, both on land and in water, and those which we find to be most complex and perfect in their internal structure.

If we had more leisure to dwell upon all the subordinate forms of the skeleton in every class and order which we consider in passing through the animal kingdom, and to deduce scientific conclusions and principles of reasoning from all that we observe, I would impress you with the necessity of minutely examining those organizations which appear most different from each other, and of fixing clearly in the mind some one or more of the typical forms of the skeletons in each subordinate group. You may possibly have occasion hereafter, when at a distance from museums, to employ all the knowledge you possess of the osteology of the human body, and of the lower forms of the skeleton, to the advancement of science. In that case, if you had a previous exact knowledge of the typical forms which are common to whole groups of animals, particularly of the essential elementary parts of their skeleton, how readily you would

each side of it, in the frog and many similar amphibia, the anterior extremities for progressive motion upon land; the posterior extremities are the organs chiefly employed by those animals in the water. The central part of the scapular apparatus, extending along the lower part of the abdomen, is formed by a longitudinal chain of bones composing the sternum. Although here they appear united, they were divided upon the median plane, excepting one, which appears, if ever it was divided, to have united at a very early period; and in higher forms of reptiles, we shall see that the sternal bones do remain permanently separate. We have got two united together in the upper part (U^* *a*) of the sternum, which are very thin and flexible. The two pieces of the upper part are called the *epi-sternal* bones (U^* *a*), forming a round piece of soft, thin bone. Geoffroy St.-Hilaire has given names to the separate bones of the sternum, which are very useful and appropriate. Below this there are two bones (U^* *b*) also united, which appear to correspond with the two *hyo-sternal* bones. Below these two hyo-sternal bones is the *ento-sternal* bone (U^* *d*), to which both the clavicles (*c*, *c*) and the coracoid bones (*e*, *e*) are attached. Beneath the ento-sternal bone there is another pretty large bone, composed of two lateral pieces; the *hypo-sternal* (U^* *g*) bone, and then the lowest two united large pieces, which you know in the human sternum compose the ensiform or xiphoid cartilage, is the *xiphi-sternal* (U^* *h*) bone. This then forms a pretty complex series along the middle of the lower part of the trunk of the body, corresponding with the chain of vertebral bones above, like an inferior median column.

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These two iliac bones do not compose the whole of the pelvis, though they might at first appear to do so; for, upon watching with attention that compressed part (S^* *f*) which you will perceive forming the posterior and inferior part of the pelvis, you can, by maceration, distinctly see sutures, and that it is composed of three distinct bones on each side. Behind are the two bones corresponding with the two ossa ischii; these have a compressed and rounded form. On the anterior part there are two small compressed bones,—the two pubic bones; and to these are attached the two iliac bones. So that if you were to examine narrowly this acetabulum,—the cotyloid cavity for the head of the femur,—you would actually see, as in the human cotyloid cavity, the three bones entering into its formation on each side,—the ilium, the ischium, and the pubis; so that we have now arrived at a more complete pelvis than any we saw in fishes, although it is still freely moveable on the sides of the vertebral column.

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be able to form an accurate judgment, even upon comparatively slender data, where another, with even more means of forming a judgment, but without the same previous scientific knowledge, would be guided by analogies the most superficial and absurd. The skeleton of the salamander, the figure of which (X^*) I hold in my hand, was

X^*

mistaken for that of an antediluvian giant. It presents something like a human vertebral column; something like an expanded human occipital bone; but what knowledge of the principles of osteology could compare this head, with large lateral openings, these expanded jaws and teeth, these scapular bones, these short, pointed ribs continued from the ends of the transverse processes of the vertebræ in this skeleton of a gigantic extinct aquatic salamander, or any one of its bones taken separately, with the corresponding parts of a human skeleton—the skeleton of a land animal organised to support the trunk in an erect position. Yet this is the supposed human skeleton, the famous *homo diluvii testis* of SCHEUCHZER found in the tertiary calcareous slate of OENINGEN, and so long believed to be a remnant of our race, buried by the universal deluge. Every part of its skeleton illustrates what we have been examining of the forms of the bones of these amphibia, and especially of the long-tailed species, but the merit of deciphering the true nature of this interesting relic was left to the illustrious CUVIER.

To morrow I shall proceed to the osteology of reptiles.

THE AD-ORBITAL BONE.—Its existence in man (it is very manifest in oviparous animals) has been for some time asserted by M. Serres, though not generally recognised. In young subjects it is a separate piece, but in some cases is inseparably united with the orbital portion of the superior maxillary, which it overlaps.

CASE OF

FALSE ANEURYSM

OF THE ASCENDING PORTION OF THE

ARCH OF THE AORTA,

AND

RUPTURE,

WITH EFFUSION OF BLOOD INTO THE PERICARDIUM.

By J. R. SMYTH, *M.D.*, *London.*

JOSEPH HUMPHRIES, aged 16, strong and muscular for his years, was, on the 29th of November last, about nine o'clock a.m., after having ascended a ladder to a considerable height, suddenly seized by a sharp piercing pain in the region of the heart, accompanied with a feeling of suffocation and syncope. He would have fallen to the ground but for his father, who, being at hand, came to his assistance, and supported him while he descended the ladder, at the foot of which the boy lay for a short time in a state of insensibility; his lips, cheeks, and ears, livid, his respiration laborious. After recovering from this state of insensibility, he complained of pain, with a sense of tightness and weight in the precordial region; respiration was still difficult.

With the assistance of his father he now walked to a neighbouring house, and then a second time became insensible, and so continued for a longer period than the first. On recovering, therefore, he was carried home, a distance of a mile through a village, some of the inhabitants of which, from his appearance, inquired if he had been drowned. I saw him at about eleven o'clock a.m., two hours from his first attack of insensibility. The most striking symptoms of his affection at that time were those of asphyxia; his lips, cheeks, and ears, were livid, his extremities bloodless and chilled. He shuddered as if extremely cold, or in the first stage of ague. The pulse at the wrist was just perceptible; quick and thready. He complained much of pain, and a sense of weight in the precordial region, and also of soreness and weariness in the legs. The respiration was difficult. The thorax was somewhat more convex than natural, and on the application of the cylinder, the respiratory murmur was heard, faint and abrupt. The resonance, on percussion, posteriorly on both sides, and anteriorly on the right, was clear. On the precordial part of the left, stretching up to near the clavicle, and

extending laterally, the resonance was remarkably dull. On applying the ear to this part of the chest, the action of the heart was heard irregular, and at a distance. He vomited, and had a copious fluid evacuation from his bowels on arriving at home; he had also considerable thirst.

Not being as yet satisfied as regarded the diagnosis, I ventured, with the view of relieving the asphyxia and pain, on venesection, and twelve ounces of blood, which flowed freely, were now drawn from the arm. Slight relief from the asphyxia followed, but no relief from pain.

℞ *Hydr. Submur.* gr. iij;
Pulv. Opii gr. ¼. Ft. pulv. quamprimum sumendus et octo q. q. hora repetat.
To have warm applications to the feet, and warm tea, with a little brandy occasionally to quench the thirst.

At eleven o'clock p.m., Mr. Jones,* an intelligent surgeon, visited the patient, and at this time it appears that a degree of reaction had taken place. He found the boy in a calm sleep; surface and extremities warm, pulse soft, and not remarkably small; countenance tolerably natural. On being awoke, he still complained of pain in the region of the heart, which now, however, was not constant, but recurring in transitory stings. He moaned, and was restless from this time until four o'clock next morning (Nov. 30), when he again fell asleep, and so continued until nine o'clock a.m., when he awoke, and expressing himself as being better, took his powder, and during the day, which was spent in tolerable comfort, had some tea and toast. In the evening, however, he became uneasy. The night was spent without sleep, and in a very restless manner. About nine o'clock, on the 1st of December, he complained of being tired of lying in bed, dressed himself, and came down-stairs without any assistance; and having sat for more than an hour at the kitchen fire, conversing freely with those around him, again went up-stairs without assistance, lay for some time in a restless manner in bed, complained much of pain of the heart and difficulty of breathing, and again attempted to descend the stairs; but he had passed only a few of the steps when he fell backwards, and was carried to his bed in a state of insensibility, and in a few moments expired. The fatal event occurred at twelve o'clock midday, fifty-one hours from the commencement of the attack.

* The case occurred in this gentleman's practice at Brackley, Northamptonshire.

This boy never felt any symptom of his disease till within a month or six weeks previous to his death, during which time he was frequently started by a transitory stinging pain in the chest, which, for a short time, interrupted his breathing. This pain, however, was not so severe as to cause him to apply for relief. His father is a thatcher, whom he was in the daily habit of attending, thus following an employment similar to that of a hod-man in London. He was the "champion" of his companions, and used to amuse them much by tumbling, and other feats of activity.

Autopsy Twenty-six Hours after Death.

On laying open the thorax, the lungs were found to be healthy. The right lung was in its natural position; the left was pressed backwards by the pericardium, much distended. This sac, on being slit open, was found to contain thirty-six ounces of blood, the serum and crassamentum of which were perfectly distinct, the latter being firmly coagulated, and moulded to the shape of the heart with more nicety than plaster-of-Paris could be modelled by the hand of an artist. By removing this clot of blood, a transverse lacerated aperture, about an inch and a quarter long, was discovered in the pericardium, situated just between the tip of the right auricle and the root of the pulmonary artery. This aperture led into the interior of an aneurysm of an ovate, or, rather, pyramidal shape, about the size of the right auricle when fully distended, which it had surmounted and pressed a little downwards, so that at first view the whole was mistaken for dilatation and rupture of that cavity. To be somewhat more particular in the position of the aneurysm, it was situated as follows:—Buried deep in the chest, it was bounded on the left by the arch of the aorta, on which it was engrafted, and by the pulmonary artery; on the right by the descending cava; before by the anterior mediastinum; the bloodvessels of the root of the right lung lay behind it. Its apex mounted up to near the commencement of the arteria innominata. Its base rested, as I have mentioned, on the right auricle and base of the right ventricle, and, overhanging those parts a little, formed a slight bulging into the bag of the pericardium, the serous membrane of which, in a thickened and softened state, formed the partition in which the rupture took place. The wall of the sac was thin, and formed, except in the part corresponding with the aorta, by the serous membrane of the pericardium, and cellular tissue consolidated by adhesive inflammation, and strengthened at some points by small portions of fibrinous

deposits. The interior was irregular, and contained a firm clot of blood.

The ascending portion of the arch of the aorta was considerably lengthened, and was dilated to upwards of twice its natural capacity. Its wall was as thin as paper, soft, and easily torn, but free from every kind of morbid deposit. In the right part of the wall, facing the aneurysm about its centre, a large, recent, ragged, angular rent was situated, one side of which was longitudinal, the other transverse, and each an inch in length. Two small apertures, about the size of those in the rose of a large watering-pot, were also discovered, opening into the sac, about a quarter of an inch from the aortic valves. These valves were cartilaginous, and considerably puckered, forming a stricture between the dilatation and the left ventricle, which permitted the index finger to pass with difficulty as far as the second joint. The mitral valves were a little thickened. The other valves were sound. The heart, completely empty, was considerably enlarged, the left ventricle being much hypertrophied.

Remarks.

From the unfrequent occurrence of such a case of aneurysm as the one now related, the following remarks will not, perhaps, be considered much out of place.

It has been stated by writers, that *false aneurysm* of the ascending portion of the arch of the aorta does not, nor can ever, occur, for this reason, that the structure of the part, the absence of a cellular coat to this part of the vessel, will not permit such a lesion. Dr. Hope, the first authority of the day on this subject, makes the following statement:—

"Almost all the aneurysms," says this distinguished author, "of the ascending portion of the arch, are originally of the true species, but the false are sometimes engrafted upon them; the tumour generally springs from the anterior or lateral part of the vessel, while the posterior part is little, if at all, implicated. It sometimes attains the magnitude of a mature fœtal head, and generally inclines to the right side of the chest. When it springs from the root of the aorta, and the middle and internal coats happen to burst, there results, not a false aneurysm surmounting the true, as in other parts, but a fatal extravasation into the pericardium. The reason of this is, that the part of the aorta referred to is destitute of a cellular tunic, and the pericardium which supplies its place not being equally distensible, bursts, rather than dilates, into a false aneurysm."

The doctrines contained in the two last sentences of this quotation, can no longer be received as authentic. This case proves the contrary,—namely, that *false aneurysm* may form at the root of the aorta, as well as at any other part of the arterial system. Theories, however plausible or respectable they may be, can only be regarded as the illegitimate offspring of reason, and, in the republic of science, are doomed to give place to the legality of fact. The serous membrane of the pericardium forms at the root of the aorta a sort of third coat to the vessel, and, in this instance, with the assistance of the adjoining cellular tissue, served every purpose which the more dilatable tunic does elsewhere in the formation of aneurysm. In the present case, indeed, the serous membrane *external* to the fibrous coat of the aorta, was scarcely more distended than the *internal*. Again, Dr. Hope says,

"It has been stated by a recent writer, that a preparation in Mr. Hunter's collection subverts the doctrine that false aneurysm does not form at the root of the aorta. The preparation of which he speaks, however, scarcely subverts this doctrine, since it is not one of false aneurysm; for the middle coat is perfect, the internal one alone being either diseased or removed (which is doubtful) at the base of the sac."

If this preparation in Mr. Hunter's collection do not subvert the doctrine "that false aneurysm does not form at the root of the aorta," the preparation now in my possession does, than which, a fairer specimen of the disease in question could hardly, I presume, be procured from the collections of any of the museums of this city.

In the supervention of the false aneurysm upon the true, the blood, in this case, as far as observation can now detect, seems to have oozed through the wall of the aorta by several small openings, forming at first a sort of extravasation or ecchymosis between the serous membrane of the pericardium and the fibrous coat of the vessel. The extension of the sac to the size which it presented on examination, must have been a process of unusually slow progression. This we can understand from the nature of serous membrane. The lateral pressure of the blood following each systole of the heart, was prevented from acting with force on the wall of the sac by the partial intervention of the wall of the aorta, and this useful support was afforded to the sac by the aorta, until the occurrence of the angular rent. But immediately this took place, a gush of blood, propelled by the increased power of an hypertrophied ventricle, escaped into the sac and caused the rupture and fatal extravasation. The

latter rupture followed the former, then, in close succession, and both took place while the boy was on the ladder, fifty-one hours previous to his dissolution. This, in my humble opinion, is the authentic view of the case, and the subsequent short analysis of the symptoms will, perhaps, contribute further to its support.

Although it is stated by Laennec, Dr. Hope, and other writers on this subject, that life continues longer after extravasation into the pericardium than after extravasation into any of the other cavities (for instance the pleura, trachea, or œsophagus) into which the blood from aortic aneurysms is more commonly effused, I am not aware that there is on record a case in which the patient survived the extravasation for so long a period as fifty-one hours. Rupture into the pericardium is, indeed, so extremely rare, that the inventor of the stethoscope never saw an instance of it. Dr. Hope has met with one, but he has not mentioned the length of time which the patient survived the event. In the present case it is to be regretted that the patient did not remain quietly in bed, as, by so doing, there is little doubt that he would have survived the rupture even longer than he did.

Symptoms and Diagnosis.

A curious fact in the history of this case is, that so serious a lesion of the circulation should exist, and yet interfere so little with the health, and not at all with the laborious employment of the individual. Up to the moment at which the aneurysm burst, he had never relaxed for a day from his customary labour. This circumstance led me somewhat astray in the *diagnosis*; for although, as I shall here explain, I was perfectly satisfied that the pericardium was distended by a fluid, I could scarcely come to the conclusion that that distention was derived from the bursting of an aneurysm. My diagnosis, therefore, was "extravasation of blood into the pericardium, from rupture of some of the chambers of the heart." This diagnosis was advanced shortly after my first visit to the patient, and the evidences on which it was founded were these;—1st. The sudden manner in which the patient was attacked. 2nd. The tightness, with the undeviating locality of the pain, in the precordial region. 3rd. The very enlarged extent over which, in this region, the resonance, on percussion, had become dull, with the *distant* feeble sound of the action of the heart.

The attacks of insensibility following the rupture, must be regarded as compounds of syncope and asphyxia, the former caused by the sudden extravasation of so large a quantity of blood; and the latter by the pressure of this blood interfering with the distolic action of the heart. The syncope in both instances was soon recovered from, but the asphyxia, which, when I first saw the patient, was sufficiently manifest in the livid cheeks and lips, and the weak thready pulse, continued more or less intense, from first to last, until syncope, brought on evidently by the muscular exertions of going up and down stairs, again supervened and proved fatal. From this view of the matter it is tolerably manifest, that not a little risk of immediate dissolution was incurred by the sanguineous depletion. In defence of the practice, however, I may observe, that when this remedy was had recourse to, I was not decided on the score of diagnosis. It was resorted to with the view of relieving the asphyxia, and it had, in some degree, the desired effect, for the patient, after the operation, expressed himself to be easier, and remained tolerably comfortable until next morning. The bleeding was not repeated, for fear of inducing syncope.

Pathology of the Case.

The pathological commencement and course of this affection will admit of two modes of explanation. The primary lesion, or first diseased action, may be placed either in the aorta or the heart; and first I will commence with the aorta.

That vessel, from some invisible cause (a slight degree of inflammation, I am disposed to think, was the cause in this case, —not morbid deposits, as seen by autopsy), was deprived of its elasticity, the power of reacting to the distolic impulse of the heart, and thus, from being an active it became a passive tube; and, yielding to the expanding force of the passing current, gave rise to dilatation, the first *apparent* step in the pathology. The immediate consequence, then, of this dilatation was, the permitting of a larger column, and, consequently, a greater weight of blood, to press upon the area of the aortic valves. Those parts being, by this circumstance, called upon to perform a function which, from their natural organization, they were incapable of executing, must either have ruptured or permitted of regurgitation. But Nature, fruitful in resources, obviated this evil by strengthening these valves by means of the deposition of cartilaginous matter in their texture. This cartilaginous and rigid state of the valves, however, from being a consequence, became, in its turn, a cause, —the cause of the hypertrophy of the heart, principally of the right ventricle, the increase of the muscular texture of the ventricle being the result of the increased efforts of the cavity to expel its contents,

—from a similar cause, and in a similar manner, to that of the muscular coat of the bladder sometimes becoming thickened when a stricture exists in the urethra.*

In beginning with the heart the matter may be explained thus:—The continued laborious exercise to which that organ was subjected, in consequence of the daily employment of the patient, produced in the first instance hypertrophy, and that hypertrophy increasing the power of the left ventricle, the blood was propelled with augmented force against the wall of the aorta, and overcame its elasticity, giving rise to dilatation,—the dilatation then producing disease of the valves, in the manner already explained. One of these two explanations comprehends, I presume, the pathology or pedigree of this disease. The former is, perhaps, the one most likely to be true.

Salisbury Street, Strand, Jan. 1834.

CASE OF

IMMENSE TUMOUR WITHIN THE PELVIS.

By CHARLES GRAVENOR, *Esq., London,*

On the 28th of last month, I was requested to visit a widow, named Cox, residing in Bell Court, Fleet-street. Upon seeing her, my attention was drawn to the very distended state of her abdomen, the swelling being so extensive as to occupy nearly its whole extent. It was hard, uniform, and free from pain. She told me that she first perceived the enlargement about ten years since, and that it had been gradually increasing till the present time. Two years ago, it occasioned, as it did at present, retention of her urine, and at that time she was relieved by the use of the catheter. After the employment of the instrument for a short time, the urine was passed naturally, and so continued without interruption until the last two days, since which time she had been unable to pass any fluid from the bladder.

The patient, in addition to the retention of the urine, was now greatly emaciated, and had a short dry cough; her pulse was 120 and weak; the tongue was dry and chapped; the mouth and fauces were in an aphthous state; she had great thirst; her skin was hot and dry; and her bowels were confined. Her age was 44. She gave birth to one child some years since, when her labour was natural, though severe. She had now been a widow for several years, menstruated regularly, and had not felt much indisposition till the last week, when she told me, in addition to the foregoing particulars, that she had experienced feverish symptoms in consequence of her having got wet.

The occasional introduction of the catheter, for at times the urine was expelled naturally, and the exhibition of aperients when requisite, formed the plan of the treatment which I pursued till her death on the 3rd instant.

The abdomen was examined a few hours after death, when upon dividing the integuments, the muscular fibre was observed to be greatly attenuated. Reflecting it, the tumour presented itself, covered by the peritoneum, which, except at the upper part, was closely united with the fascia of the abdominal muscles arising out of the pelvis, and ascending as high as the liver, the arch of the colon being thrust up as far as possible, and the small intestines concealed behind the tumour, the spleen lying upon it. The uterus and ovaries were in natural condition, being in front of the tumour, and the bladder was pushed forwards over the pubes.

The tumour was of a circular shape, except that, inferiorly, it had a narrow part situated in the pouch, between the rectum and the vagina, to which parts, as also to the bladder, it was firmly adherent. Posteriorly the body of the tumour was free from adhesion, as the hand passed readily behind it. Upon its removal from the body it was measured around its middle part, and found to be thirty-four inches; its weight was nearly three-quarters of a cwt.

It was covered entirely with a smooth membrane. On being cut into, it exhibited a dense, hard, granulated structure throughout, except at the interior of the narrowest part, where a small substance of a smooth, compact, cartilaginous texture was discovered, imbedded in that which formed the mass of the tumour. There were three or four small collections of pus near the surface of the tumour, and one or two of serum. The cavity of the peritoneum contained about a quart of serum.

1, Rolls Buildings, Fetter-lane,
7th January, 1834.

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* It is a little singular that this state of the bladder has not before now been dignified by the appellation of "hypertrophy."

DOCUMENTS

LATELY ISSUED BY THE

UNIVERSITY OF ST. ANDREW'S

AND THE

ROYAL COLLEGE OF SURGEONS OF EDINBURGH,

Relative to the granting of Degrees in Medicine and Surgery by the former Institution.

No. I.—*Regulations for Granting Medical Degrees, by the Senatus Academicus of the University of St. Andrew's.*

THE Senatus have adopted the following regulations, which they request may be published in the medical journals of Great Britain, and communicated to the highest medical authorities:—

I. Candidates for examination must be twenty-one years of age, and of unexceptionable moral character.

II. They must have had a liberal and classical education, and be ready to undergo an examination as to their proficiency in Latin.

III. They must produce certificates that they have regularly attended lectures delivered by professors in some university, or by resident Fellows of the Royal Colleges of Physicians or Surgeons of London, Edinburgh, Glasgow, Aberdeen, or Dublin, for at least *four complete sessions*, during *four years*, on the following branches:—1. Anatomy. 2. Practical Anatomy. 3. Chemistry. 4. Theory of Physic or Physiology. 5. Materia Medica and Pharmacy. 6. Principles of Pathology and Practice of Physic. 7. Surgery.—(Each of the foregoing courses to be of six months' duration.)—8. Practical Chemistry,—a three months' course. 9. Midwifery and Diseases of Women and Children,—a three months' course. 10. An Apprenticeship, or six months' attendance in the shop of an apothecary, or in the laboratory of a public hospital or dispensary. 11. Attendance at a Public Hospital, containing not less than eighty beds, for at least twelve months. For Degrees in Medicine—Clinical Medicine; and for Degrees in Surgery—Clinical Surgery; two three months' courses of either to be considered equivalent to one six months' course.

These regulations will be invariably observed, except when the candidates are possessed of a surgeon's diploma from London, Edinburgh, Glasgow, Aberdeen, or Dublin; have been in regular practice previous to the year 1830, or have served as medical officers in his Majesty's Army, Navy, or East India Company's Service,—in which cases three years' attendance on the above courses will be sustained.

The Senatus Academicus have, in the meantime, appointed as conjunct Examinators with the Professor of Medicine,—ROBERT LISTON, Esq., Surg. to the Royal Infirmary, Edinburgh.—J. A. ROBERTSON, M.D., and Lect. on Surg. and Mat. Med., Edinburgh.—J. MACKINTOSH, M.D., Lect. on Mid. and Prac. of Med., Edinburgh.—A. LIZARS, Esq., Lect. on Anat., Edinburgh.—W. GREGORY, M.D., Lect. on Chem., Edinburgh,—any three of whom, along with the Professor of Medicine, to be a quorum.

There shall be three periods during the year for graduation, viz. the last Tuesday in April, the first Tuesday in August, and the last Tuesday in December.

Each candidate, after he shall have afforded sufficient evidence to the University as to his course of study, and paid the fee of graduation, will be informed of the time and place of his examination, which must be conducted before the Senatus Academicus, or a Committee of that body.

The whole proceedings shall be submitted to the consideration of the Senatus Academicus by the Examinators. Should the University be satisfied, the degree shall be conferred on the candidate by the Rector, in the hall of the public library of the University, and the diploma shall be signed by the Members of the University and the Examinators. Should any candidate be found unqualified, he shall be remitted to his studies till the next period for conferring degrees; and when he again presents himself, he shall be required to produce satisfactory evidence that he has been diligently engaged during the interval, in improving himself, and, if possible, attending additional lectures. In the event of being remitted to his studies, he shall forfeit one-third of the deposit-money, which, however, will be accounted for to him when he passes his examinations successfully at a subsequent trial.

St. Andrew's, 9th December, 1833.

No. II.—*Resolutions of the Edinburgh College of Surgeons relative to the foregoing Regulations.*

To the Editor of THE LANCET.

Sir,—I take the liberty of transmitting to you, for your information as editor of THE LANCET, a copy of Resolutions adopted by the Royal College of Surgeons of Edinburgh, regarding the regulations recently issued by the University of St. An-

drew's, for conferring degrees in medicine and surgery. I am, Sir, your obedient servant,

JOHN CAMPBELL, President.

Edinburgh, Jan. 9th, 1834.

Surgeons Hall, Edinburgh,
Jan. 4th, 1834.

There having been submitted to the Royal College of Edinburgh, an authenticated copy of "Regulations for granting medical degrees, by the Senatus Academicus of the University of St. Andrew's," of date 9th December 1833, it was resolved:—

1st. That the College experience much surprise in learning that an arrangement has been entered into between the University of St. Andrew's and certain members of their own body—engaged in teaching different branches of medical science, in Edinburgh,—for conferring, in name of that University, degrees in surgery as well as in medicine.

2nd. That the College cannot but regard this novel assumption, on the part of the University of St. Andrew's, of a right to confer degrees in surgery, though not possessing in their own body a single professor in that branch of science, as being wholly uncalled for by any considerations of public expediency or utility; as a violation of the rights and privileges of this College; and as calculated, in as far as a smaller extent of education is demanded of candidates for that degree than for the diploma of the College, to impede the exertions which this College have for many years been making to raise the qualifications of those who receive their license.

3rd. That, in issuing at the present time a new code of regulations for conferring degrees in medicine and surgery, the Senatus Academicus of the University of St. Andrew's appear to have altogether overlooked the opinion so decidedly expressed by the late Royal Commissioners for visiting the Universities and Colleges of Scotland, viz.:—That the possession of this privilege by Universities, circumstanced as theirs is, is "inconsistent with sound principle; and that the exercise of it, while it is directly opposed to the interest of the public, can be productive neither of credit nor legitimate benefit to those establishments."

4th. That the College, independently of the doubts they entertain as to the right of a University to delegate any part of its duties or privileges to persons unconnected with it, cannot but consider it as an unheard-of and unwarrantable aggression in one University, to establish an Examining Board, chiefly constituted of persons residing at the seat of another, and to appoint to that Board, teachers necessarily engaged in rival competition with the professors of their sister institution.

5th. That the College cannot overlook the coincidence in time between the promulgation of this new code of regulations by the University of St. Andrew's, and the announcement of certain extensions of the course of study required by the University of Edinburgh from Candidates for its medical degree; nor fail to perceive, in this instance, a practical exemplification of the difficulty which (in the want of any general system of medical legislation) must always attend the efforts of public boards, to extend and improve the education of those on whom they confer testimonials; viz. the possibility of the same titles and equal privileges being obtained from other boards on a smaller amount of qualifications.

6th. That the College, feeling, as they necessarily do, a warm interest in the character of the University of Edinburgh, and in the respectability of its medical graduates, conceive themselves called on to express, upon the present occasion, the satisfaction they have derived from the progressive extension of the course of study prescribed by that University to candidates for its medical degree, so as to ensure that its holders shall, in respect of education and acquirements, be worthy of the dignity, and of their connexion with the institution—measures that could not fail to be the more agreeable to the College, from being so completely in unison with those which they have themselves pursued in framing regulations for candidates for their diploma.

7th. That it is to the College a source of much regret, that any members of their own body should have engaged in a scheme for conferring surgical degrees prejudicial to the rights, liberties, and privileges of the College, which, on admission into it, they bound themselves faithfully to maintain and defend, and which scheme, if it operate at all, must be injurious to those interests which they at the same time undertook to promote to the utmost of their power.

8th. That a dutiful and loyal address be presented to the King's most excellent Majesty, praying that, in the exercise of that power of superintendence over the Universities which the constitution has placed in the crown, he will be graciously pleased to interdict the University of St. Andrew's from all further proceedings in this matter, till the Report presented to his Majesty by the late Royal Commissioners for visiting the Universities and Colleges of Scotland shall have been duly considered by his Majesty's advisers.

By order of the Royal College,

JOHN CAMPBELL, M.D., President.

No. III.—*Protest from the Examinators to St. Andrew's University, against the above Resolutions.*

Edinburgh, 4th Jan. 1834.

We the undersigned, Examinators to the University of St. Andrew's, and Fellows of the Royal College of Surgeons of Edinburgh, do hereby protest against the Petition of the said Royal College to the King and Council, praying that the University of St. Andrew's may be interdicted from carrying into effect their late Regulations for conferring Degrees in Medicine and Surgery, and for the following reasons:—

1st. Because any exercise of the Royal Authority so as to interfere with the Charter of any University would be illegal and unconstitutional.

2nd. Because the alterations complained of in the mode of conferring Degrees are an improvement upon that which has been in operation since 1826. They ensure a more efficient course of study, and a full and fair examination of the Candidates before they can receive the Medical Degrees.

3rd. Because the Royal College of Surgeons never attempted to interfere in regard to the affairs of the University of St. Andrew's, until it appeared likely that the *Improvements* made by appointing a respectable Board of Examiners, and enacting a most efficient course of Study, would add so much to the value of the Degrees conferred by the University of St. Andrew's, that the number of Candidates for these Degrees would increase, so as to affect the *pecuniary interests* of the Royal College of Surgeons, and more particularly of those Members of that Body who are Professors in the University of Edinburgh.

4th. Because it is absurd in the Royal College of Surgeons of Edinburgh, to object to the course of study required of Candidates by the University of St. Andrew's, seeing that it is nearly the same as that required by the said Royal College, and more extensive than that required to obtain degrees in the Universities of Oxford, Cambridge, or Glasgow, or the College of Surgeons of London.

5th. Because it is evidently absurd in the Royal College of Surgeons to object to those certificates of attendance upon lecturers qualifying for a medical degree, which are received, not only by their own body, but by every other College of Surgeons in Great Britain and Ireland. In the Regulations of the University of St. Andrew's, published in 1826, it is expressly declared that certificates of attendance upon Lectures in any University or *celebrated School* of Medicine will be received.

6th. Because, according to the Regulations of the Universities of Edinburgh, Glasgow, and Dublin, it is impossible that even the most distinguished Members of the profession can receive what is termed the highest Honours in Medicine without relinquishing their avocations, and attending as Students for four years the elementary Classes within the walls of a University, although they may have received a full Course of Medical education under the most distinguished Teachers in the Kingdom, as Sir Astley Cooper, Sir Charles Bell, Abernethy, Brodie, Guthrie, Lawrence, Elliotson, &c. &c.

7th. If the power of conferring degrees in Medicine be limited to Universities exacting attendance upon their own Schools, either what may actually be the best Schools must be deserted, or the persons who attend them must be excluded from professional honours. In other words, this would be to establish a monopoly, where monopoly, from every principle of humanity, is most to be deprecated, and to sacrifice for the benefit of a few University Professors, the welfare of all classes.

8th. Such monopolies, and such exclusive privileges, are no longer required to promote the science of Medicine, as the highest members of the profession, without these, have enrolled themselves in the lists of teachers.

9th. If the regulations of St. Andrew's be carried into effect, the most salutary competition will be established between the *recognised public Medical Schools* and those of Universities, by which the science of Medicine must be benefited, and the public good promoted.

10th. If the Universities do their duty, they have nothing to fear, possessing many advantages which their rivals do not enjoy. If they should relax in their exertions, there can be no reason why they should have exclusive privileges for their own *pecuniary* benefit to the injury of the public.

11th. Degrees in Medicine are conferred in a manner similar to that of St. Andrew's, by the Universities of Oxford and Cambridge, and the petition, if applicable to the University of St. Andrew's, must be equally so to those of England, which, however, are not noticed in the petition.

12th. Because the Fellows of the College of Surgeons, who have accepted the office of Examinators, have not in any manner infringed the declaration made on becoming members of that body.

In short, the alterations complained of are *improvements* on the mode of conferring Medical Degrees, inasmuch as, 1st. The course of study required, embraces every subject essential to the education of

a Medical man; 2nd. The Student may procure that education in London, Dublin, Glasgow, Edinburgh, or any other Medical School of celebrity; and, 3rd. The examinators have no *pecuniary* interest in the result of the examination.

(Signed)

ROBERT LISTON, F.R.C.S.E.
JOHN MACKINTOSH, M.D. F.R.C.S.E.
ALEX. J. LIZARS, F.R.C.S.E.
J. A. ROBERTSON, M.D. F.R.S.E.

I, William Gregory, Examinator to the University of St. Andrew's, and Fellow of the Royal College of Physicians of Edinburgh, approve of the above reasons of protest. (Signed)

WILLIAM GREGORY, M.D., F.R.S.E.

MEDICAL REFORM.

MEETING OF THE MEMBERS OF THE LIVERPOOL MEDICAL SOCIETY.

January 8th, 1834.*

A MEETING of the *Liverpool Medical Society* was held at the Royal Institution, Liverpool, on the 8th inst., Dr. LANE in the chair, for the purpose of considering the propriety of adopting measures to promote and secure a reform in all the public medical institutions of this country, and in the educational and practical department of the profession. The business of the meeting having been opened by the Chairman,

Mr. ROGERSON said he had waited with no little anxiety, in hope that some individual combining talent, age, and personal influence, would introduce to the medical profession in Liverpool, the various and important topics of medical reform. He had waited in vain. Fortunately, however, the principles which it was their great object to examine and promote, had no connexion with time, character, or person, and, like truth, needed no contrivance. They told their own tale, carrying with them force, weight, and full conviction. He had waited till the eleventh hour, when further delay, or the least degree of apathy, would be criminal towards the profession, the legislature, and the public. The time was fast approaching when the Legislature would enact laws which would regulate the profession, and the health of the community at large, on a basis which would endure, in all probability, for ages. Doubly important, then, was it that medical men should unite, exert themselves, and give every requisite knowledge to the ministers of the crown, who have openly professed their willingness to reform abuses and correct defects, provided they can be made acquainted with the remedy. Lord Melbourne, judging from the observations he made on the Scotch bill in the House of Lords, was perplexed with the state of this medical question. It was the duty, then, of the profession, to enlighten ministers as much as possible on the subject, that they might do what was right and just. It was equally their duty to pursue the same plan with members of Parliament, that they might be induced to support the useful measures of the state, and nullify those which may be hurtful, to afford Mr. Warburton every assistance in the motion he had given notice to bring forward in the next session of Parliament, and to make the public acquainted with the defects of the present medical institutions, and the wants and wishes of the profession, especially since these were matters of universal concern, and, more especially, he was sorry to say, of public ignorance. The press, then, must be their great engine of communication, information, and reference. Unanimity, and the formation of provincial medical reform committees, were urgently required, from the general neglect of the medical interests of the provinces by their metropolitan brethren. The present medical government was conducted on the principle of a corporation, and however applicable and beneficial the corporation system might be to the purposes of civil government, it was not so to medical science. He admired the pure principle of municipal corporation in civil cases; but the laws of medical science were founded on truth, facts, experiments, and reason: they were universal and republican. They respected no person, acknowledged no partial feelings, no distinctions, except the noble one of intellect; no districts, no country. Pure philosophy, Gentlemen, is no partisan, no corporator. The great beauty of municipal corporations is, that their jurisdiction is limited to a certain district. The medical profession has only *metropolitan* corporations, which are, therefore, from the nature of their constitution, inadequate and defective. They cannot extend their influence in a perfect manner over the whole country. In addition to this, they have all the worst vices of the corporation system,—self-election, self-perpetuation, exclusion, grades, distinctions. The latter they attempt to maintain by titles, though those titles are merely a species of nickname. The medical man who confines himself within the barrier pointed out by a medical nickname, limits his sphere of utility to society, and is at best a very imperfect medical practitioner. In the

* We are indebted for this report to the "Liverpool Mercury" of Jan. 10th.

words of a forcible writer, "he lives immured within the bastile of a *word*." In the language of Mr. Abernethy, medicine is what the French Republic was said to be,—one and indivisible. A knowledge of both medicine and surgery is necessary for every medical man, and the physician, surgeon, or apothecary, who dares to practise without this comprehensive knowledge, is trifling with human life, and is dangerous to society. Medical corporations in England do not secure this, and though in study and practice medical science acknowledges no divisions, no distinctions, yet the legislatures of by-gone days made three under the form of corporations,—a College of Physicians, a College of Surgeons, and a Society of Apothecaries. The spirit of folly could not have produced more perfect specimens of confusion, inadequacy, and contradiction, than these. Medical reform proposes to destroy this unnatural state of British medical institutions, and to erect *in each metropolis a national medical college*, securing to the public professional competency,—to ourselves professional honours, gentlemanly conduct, equal rights, and equal rank. All then that we want from Government is, that degree of protection and support which good government ought to give,—for one and all a fair stage and no favour. (*Hear, hear.*) These changes, urgently demanded by the circumstances of the times, and by the majority of medical practitioners, can be effected, without infringing on private property. It only then remains for Parliament to assimilate our institutions to the nature of our science, by making them "one and indivisible,"—making the national colleges the representative, protecting, and examining bodies, and the universities, colleges, halls, hospitals, and schools, places of instruction. Defective and injurious as these corporations are to the profession, they are more so to the Government and the public. Government were accustomed to consult these corporations on medical questions, and the result of the medical advice given was in general very unfavourable to the reputation of those bodies. The parliamentary investigations on the expedition to Walcheren in 1809, afforded an instance of this. It elicited the publicly-confessed ignorance of the medical president on the subject of that pestilential climate. Another instance is to be found in the neglectful execution of their duties towards the lunatic asylums,—and, in more modern times, their imbecile conduct and proceedings during the epidemic cholera morbus. Besides sins of commission they were guilty of sins of omission. The quarantine laws are great impediments to the freedom of commerce and personal communication and though science has thrown doubt on the old doctrine of contagion, those bodies have never enlightened Government on this subject, but have observed a shameful silence, and have not instituted a single inquiry, nor made any series of experiments, which have contributed to promote the public health and local salubrity,—literally nothing. The practical results of all medical corporations have been so manifestly injurious to medical science and the public, that no doubt can be entertained that they have outlived the circumstance of the times, and must be replaced by a new system.—The principle of medical politics can be comprehended under two plain and simple heads;—First, it is the duty of Government, as the protector of the state, to secure competent practitioners to the public,—and, secondly it is the duty of medical men to secure an honourable line of practice among themselves. The new NATIONAL COLLEGE will ascertain the competency of candidates by a public, rigid, and *practical* examination, the requisite knowledge being obtained in any manner or in any place the candidate chooses. The only concern to the public is the fitness to practise. The other duties of Government would be to abolish quack-medicine laws,—to institute councils of health, on a plan modified from the departmental councils of France, to be connected with the Home Secretary's office,—and to remodel the mode of appointing medical officers to the public charities. Provincial committees will find great reform necessary in the latter institutions, and Liverpool affords some glaring and shameful instances. Though the result of the Aldersgate-Street affair has scotched one of the heads of the hydra system of medical elections, the golden head,—still there remain many others equally monstrous and pestiferous. In Liverpool, talent is not the standard, abilities are not the passport to public medical offices. The sons, the nephews, or even the grandmothers (*a laugh*), who have a local influence, would be elected here in preference to a Hunter. Relationship, matrimonial alliances, and commercial connexions, are the heads of this medical hydra. In removing the decisions in medical elections to more competent judges than the public, who are necessarily ignorant of professional merit, the funds of charity would not suffer, for there beats in every British bosom a heart vividly alive to the feelings of humanity, and there is a hand always ready to alleviate sickness and misery; the change of election would incommode only a certain

interested knot, but few even among them would withhold their subscriptions, for they, even, are humane. I dislike honorary offices: the term is suspicious, for the "labourer is worthy of his hire." In France medical officers are remunerated. These honorary offices give a false standard of medical reputation. The "exclusive" hydra of Liverpool medical charities must be destroyed; every medical man in this town should have the privilege of entering the wards during the hours of medical visits; the eye of the public would then be upon the attendant, and compel him to fulfil his duties, and the helpless and indigent sick would be advantaged.—Mr. Rogerson then alluded to the dispensary-system, spoke of the utility that medicine might be to the state if properly applied and duly appreciated, and on the necessity of the coroner's court being medical, and concluded by saying that a reform committee would soon find materials and evidence enough to convince even infidelity itself of the necessity of reform; he therefore moved a resolution to the effect that a committee of the Society be formed, with instructions to adopt the most liberal and efficient measures to promote and secure a reform in medical law, and in the educational and practical department of the art.

Dr. O'Donnell seconded the motion, cordially agreeing with most of the opinions Mr. Rogerson had expressed. His (Dr. O'D.'s) views on local medical politics were well known. He would recommend that the profession be divided into two branches, namely, physicians who should prescribe, and druggists who should compound medicines,—that all general practitioners should be physicians, without dispensing medicines, and that druggists should undergo an examination, and then be called "licensed apothecaries."

Dr. Banning would not say what his opinions on medical reform were, but he saw that some reform must take place. He though that this question should not be discussed in the Society, but should be left to the consideration of the profession at large. He opposed the motion, and wished to move the previous question, but being told from the chair that there was none, he then moved an amendment to the same effect.

Dr. Anderson said, if it was the intention of Dr. Banning's amendment to call a general meeting of the profession in Liverpool, he would most cheerfully second it. (Dr. B. here said that was *not* his intention.) He agreed with the opinions of Mr. Rogerson, but said if the Society would call a general meeting, he would be glad to transfer the subject to that meeting.

Mr. Hall Palmer then seconded Dr. Banning's amendment.

Mr. Bromilow said, that several months ago a gentleman now present had pledged himself to call a general meeting of the profession to promote medical reform, but as that gentleman had been since appointed to a public institution, he supposed he now thought reform unnecessary. He wished to see a public meeting called, and as Mr. Rogerson's motion did not extend to that, he proposed as an amendment, "That a committee of the Society be appointed to draw up resolutions, to be submitted to a general meeting of the profession."

Dr. Murphy seconded Mr. Bromilow's amendment.

Dr. O'Donnell said that Mr. Rogerson's motion was intended to give power to the committee to call a general meeting. Dr. Banning's amendment was calculated to get rid of the question by a side wind, and, if carried, would defeat the society on a point of form.

Dr. Banning would again call upon the society to let political matters alone. Reform was very well when it meant improvement, but a thing might be reformed and made worse than before. He believed that the discussion of such subjects as these would produce heartburnings, and materially injure the society. The question of medical reform was, no doubt, a very important one, and deeply interesting to the whole profession; but this Society should confine itself to other objects, to the reception and diffusion of medical knowledge.

Dr. Macyntyre said, that it had been admitted by Dr. Banning that the question of medical reform deeply interested the whole profession, and yet he maintained that it was not interesting to that Society, and ought not to be entertained by it. It might be very well for Dr. Banning and others who felt comfortable and satisfied with things as they are, to say, "Don't agitate the Society with the question of reform; let it be taken up by others;" but he must remind the Society, that many of its members were deprived of that rank in the profession, which by their education and attainments they were entitled to hold, by the operation of the present absurd and partial laws. Was it not, therefore, a matter of the highest importance to them that this Society, and every medical society in the kingdom, should do its duty by making the imperfections of those laws known to the Government and to Parliament, with a view to their immediate correction? Let the Society, then, do justice to itself and to the profession, by pledging itself to call a public meeting to promote reform.

Mr. GILL said that he was the person alluded to by Mr. Bromilow, but he could assure the Society that he was as zealous a reformer to the full extent as Mr. Rogerson, but he feared that Mr. Rogerson's remarks on local affairs would injure the good cause. It was not to be promoted by such desultory assaults. He thought that a general meeting should be held, without binding the meeting down to any resolutions. He would move an amendment to that effect, which was seconded by Dr. REYNOLDS; and, after a few remarks from Dr. MACRORIE, Dr. DUNCAN, Mr. BANNER, and Mr. NEILL, and the reading of a letter from Dr. JEFFREY, Mr. Gill's amendment was carried.

MEDICAL REFORM.—A meeting of the Medical Society was held at the Royal Institution, on Wednesday last, Dr. Lane in the chair, for the purpose of considering the propriety of adopting measures to promote and secure medical reform in all public medical institutions, and in the educational and practical department of the art. Dr. Banning endeavoured to prevent any discussion of the question, on the ground that the Society had been founded for the diffusion of medical knowledge, and not for the discussion of medical politics. His objection was overruled, and Mr. G. Rogerson, in a very able speech, full of fact and argument, introduced the subject—showed the great necessity of medical reform—exposed the anomalies of the present system, and particularly laid open the in-and-in method of appointing medical officers to the public charities of Liverpool.—*Liverpool Journal*, Jan. 11.

MEDICAL REFORM.—UNION.

To the Editor of THE LANCET.

SIR,—That a thorough reform of medical abuses must, sooner or later, take place in this country, no thinking man can doubt. That it is required, none but the "heads" of the profession have the temerity to deny. The age has passed for ever when large bodies of men passively submitted to the dictates of a few; and *now*, when the bulwarks of despotism are daily vanishing before the overwhelming power of truth and justice, what time can be more proper for the enlightened medical practitioners of this country to assert their independence of those absurd and degrading laws which were imposed on science in the dark ages of ignorance and bigotry, and the influence of which has continued from generation to generation, as much from the apathy of the sufferers, as from the power of an aggrandizing oligarchy.

I did not take up my pen, Sir, to burden your pages with speculations on what medical reform ought to be, but to impress on my professional brethren the necessity of *uniting* their exertions to promote that important change. To ensure the accomplishment of this great measure, nothing I say is wanting but *unity* and firmness of purpose. Some of the speakers in the metropolitan debating societies, organs of the medical corporations, seem to imagine that they and their immediate party (happily a small one) alone constitute the body of qualified medical men in this country; that what they choose to enact *must* be beneficial to society, the profession, or *themselves*! They recognise not the thousands of intelligent and well-educated medical men who are scattered throughout the kingdom, and who have an equal power, and perhaps a superior right, to raise a voice in the question which affects them so greatly. It is upon those despised and neglected practitioners then that I call, beseeching them to unite in the promotion of medical reform. Let *them* do their duty—let them *unite*—petition—and undauntedly declare to the Government the abuses which disgrace the profession,—abuses which it is equally culpable in any government knowingly to permit, and for medical men to suffer; and especially let those who, dwelling in the country, are deeply conversant with the flagrant crime of letting the medical attendance upon the poor and starving population to the highest bidder, expose to Government how human life is made a matter of sordid traffic by ignorant and oftentimes brutal overseers. The system of corruption *must* fall beneath the blows of a *united* body.

But we may be told on this point, by some GREGORIAN luminary, that a reform in medical *law* is not necessary—that the medical man is culpable and punishable if he do not strictly fulfil the contract which he undertakes. I grant this to be, in a certain measure, true, yet the evil is unchecked, and is the fault of the system, and not of the medical man. It is they who institute the system, not they who are driven to subscribe to it, that are guilty.

In my own immediate neighbourhood, there are several medical men, who, in addition to large private practices, undertake the medical management of *eight*, *nine*, or *ten* parishes, some of which are *ten miles and upwards distant from each other*, and for each of which the "town doctor" receives ten, fifteen, or, more

rarely, twenty pounds per annum—a sum perhaps not half what is annually paid to the poor's rate by the rector, or some other respectable inhabitant! Does there not want reform here? Hardly a day passes, without my observing the ill consequence of such a barbarous system. But yesterday I was sent for to an abode of squalid want and misery, where I found its unfortunate mistress seated by the fire, her eyes turned listlessly towards me as I entered,—her cheek presenting that fixed hectic spot, which is the too fatal and certain precursor of death in a confirmed stage of consumption. She had been ill but one month, but had not yet seen any medical man;—the "town doctor" was too busy to visit her, for he had seven other parishes to attend!! Horrible and disgusting system! Who, after witnessing its effects, will deny the necessity of reform? Its accomplishment rests with the medical practitioners of England. Let them unite for the firm execution of their duty, and the pestiferous institutions beneath whose rule the profession now drags on its degraded existence, must crumble into dust. I have the honour to remain, Sir, your obedient servant,

A SUFFOLK PRACTITIONER, AND A M.R.C.S.L.

REPORTED CHANGES IN THE COLLEGE OF SURGEONS.—MEDICAL CONCOURS.

To the Editor of THE LANCET.

SIR,—It has been stated to me, that Mr. Guthrie has informed some of the gentlemen of his class, that the following alterations have been discussed and projected by the Council of the College of Surgeons. I need scarcely say, that the rumour has produced much anxious excitement in the breasts of many pupils. May I therefore be permitted, without commenting at present upon the subject, to ask Mr. Guthrie (for whose talents I have the highest respect) the following questions, through the medium of your very influential Journal:—

1st. Has it been proposed that each pupil who shall pass his examination at the College of Surgeons in London, shall pay a stamp duty to Government of 100 guineas, and to the College an extra fee for his diploma of fifty guineas?

2nd. That the term of years now named to be occupied in the acquirement of professional knowledge shall be dispensed with?

3rd. That the examination at the College shall, in future, comprehend both medicine and surgery; physicians to examine on *materia medica* and *practice of physic*, surgeons on *anatomy* and *surgery*, and others appointed to examine the competency of pupils in *Latin* and *Greek*?

4th. That the College mean to endeavour to obtain the abrogation of the Court of Examiners of Apothecaries Hall?

Whilst these regulations are reported to be pending, permit me to add, Mr. Editor, a word or two with regard to *concours*. I perfectly agree with you, Sir, as to the propriety of one Faculty, that it would be the means of doing away with the absurd distinctions at present existing in the profession. I agree with "Gracchus," that it would raise the standard of knowledge amongst medical men in general, and protect society from quacks and impostors; but it does not follow, that because one great Faculty and College of Medicine shall be established, *concours* shall also be instituted, or any scale exist for the purpose of justly appreciating the comparative merits of individuals. A great college, without the existence of such a system regulating it, but governed by aristocratic and money influence, would prove both a ridiculous and a contemptible mass of monopoly. I shall be happy to see some remarks of yours upon this most important point of medical reform, which I am sorry to think you have as yet too much slighted. I am, Sir, your obedient servant,

G. D. DERMOTT.

8, Queen-square, St. James's Park, Westminster, Jan. 13, 1834.

THE LANCET.

London, Saturday, Jan. 18th, 1834.

JUST as Parliament is on the point of entering with earnestness on the subject of medical government, some of the authorities of our Universities are pushing forward, in the hope, by thus claiming an early notice, to escape a more searching and lasting scrutiny. Wonderful to relate, Oxford and St. Andrew's appear about the same time with an issue of new regulations for granting medical degrees! There is, however, a very wide difference

in the character of the changes proposed by the most and the least celebrated of our Universities. We refer the reader to the official documents inserted at page 631, for some curious information on the subject of the stipulated alterations in the University of St. Andrew's.

The scheme of the SENATUS ACADEMICUS is both novel and ingenious. It is, nevertheless, calculated to be not a little tantalizing to the professors of the University of Edinburgh. By a mere stroke of the pen, some of the *outs*—(the respect we are known to entertain for the talents of some of those gentlemen will prevent us from being suspected of using this term in an invidious sense)—some of the *outs* of the latter institution, are converted into the *ins* of the former University, and thus a rivalry of a most curious description is sought to be established. The government of the College of Surgeons, Edinburgh, have taken alarm, and not, we think, without cause. This establishment has long been celebrated as the best-conducted of the whole of our medical corporations.

We may find it necessary to enter on a minute examination of the question between them at another time.

A REPORT of a discussion on medical reform at a recent meeting of the *Liverpool Medical Society*, will be found at page 634. The speech of Mr. ROGERSON is characterised by shrewd remarks and pointed argument. The Society, we think, determined correctly when it was resolved to submit the question to a general meeting of the profession in Liverpool. The gentlemen who profess to dread that change might "make things worse," appear to us to be far more apprehensive of an *improvement* in the state of medical affairs. They *know*, or they are dolts, that the collegiate, hospital, and scholastic "regulations" of the profession, cannot be reconstructed on principles more obnoxious to justice and common sense, than are to be recognised in the existing medical charters and Acts of Parliament.

IF we could restrain the impatience of many of the advocates of medical reform, we should achieve much for that important cause. We receive fifty letters weekly descriptive of what should be the details under a new system of medical government, and repeatedly are we called on to explain our views with regard to the adoption of the concours. That men should be impatient under so many wrongs is natural enough. That they are discontented is a source of satisfaction to us, because it proves that they feel and understand their grievances, — indications which clearly point to improvement. But instead of occupying and teasing our minds on minute points of detail, it is incumbent on us to consider and agree on the *great one principle* on which the medical profession of the United Kingdom is to be governed. When this is accomplished, the details will necessarily be forced on the attention, but until it is resolved what shall be the *governing principle*, the discussion of the details would merely create insurmountable difficulties, and lead to irremediable confusion. If the system of government, for example, is to be the elective,—if the voice of the whole profession is to be paramount in constructing the regulations for medical discipline,—the *concours*, if it be approved of by that voice, will, of course, be adopted with respect to all those offices which the FACULTY OF MEDICINE may be placed in a condition to bestow; but as things are *now* arranged, the *concours* is a question which stands *apart* from medical practice and government. Our corporations are self-perpetuated, and thus the few are enabled to laugh at the many, while their hands are plunged deeply into

the pockets of the deluded public. In short, it should be clearly understood, that without a complete remodelling of the laws under which our medical charities are now managed, the *concours* could not be enforced, even by the governors of a TRIPARTITE FACULTY OF MEDICINE. Hence the necessity of a general recognition of the *main principle* of government, before we branch off into interminable channels in search of what *might* prove excellent under a system which *may*, perhaps, never be adopted.

A WRITER possessing only moderate claims to be considered a man of "high moral feeling," would abstain from referring to the names of his literary opponents whilst resorting to every possible stratagem to withhold his own from public view. The adherence to such a practice presents only an ordinary degree of fair dealing and justice. If it be convenient for men of a certain stamp to write in private, it assuredly would not be dishonourable in them to award to those among their contemporaries who write without concealment or disguise, the merit of incurring the legal as well as the moral responsibility necessarily attendant on acknowledged literary labours.

In conducting THE LANCET, although our criticisms were certain to bring upon us the hostility of wealthy and powerful corporations, the name of the Editor of this journal has always been forthcoming to any individual who incurred even the remotest responsibility by sending the work before the public.

"How so," it may be asked, "when "the name of the Editor was not attached "to the first numbers of this publication?" True, the name of the Editor was not published when THE LANCET first appeared, for the Editor being at that period, from the novelty of his undertaking, compelled to act as his own reporter in taking notes of the lectures of Sir ASTLEY COOPER, and in recording cases which occurred in some of the metropolitan hospitals, it would have been impossible to carry on the work had the person of its projector been known to the hosts of corruptionists. At that time no system of hospital reporting had been established; no one had dared to incur the risk and responsibility of recording in a public journal the public lectures of the public officers of our great national establishments.

Although the necessity of a temporary secrecy was thus clearly imposed by the very peculiar character of the undertaking in which the Editor was engaged, still he determined that the whole project should be utterly frustrated rather than allow an innocent man at any time to become the victim of the odious practice of anonymous criticism. Mr. ONWHYN, the bookseller, of Catherine-street, in the Strand, was the publisher of the *second* Number of THE LANCET, and he was proceeded against, by *indictment*, for an article which appeared in that No. of the journal. On being made acquainted with the fact, although indictments for libel too commonly have the effect of forcing the parties attacked into a dungeon, the Editor, without a moment's hesitation, directed Mr. ONWHYN to give up his name to the prosecutor, that the Editor, and the Editor alone, might incur all the consequences and penalties which ought to, or might, result from his own act. No avowal, no acknowledgment, no circumstance, could have appeared more threatening, could have been fraught with more calamitous prospects to the Editor, than his legal personal identity at that period; but it is to be hoped, that there are not many public writers who would not cheerfully have incurred still greater dangers than the Editor of THE LANCET risked on that occasion, rather

than allow a severe visitation of the law to be inflicted on an individual who had committed no sin against the moral rights and common usages of society. This just mode of procedure towards Mr. ONWHYN and the public, was sufficiently rewarded in our own case, by the immediate abandonment of the criminal prosecution against Mr. ONWHYN. Here then is evidence, conclusive enough, that the Editor of THE LANCET, from the very commencement of its publication, was ready to incur the moral and legal responsibility of his writings.

Well known, therefore, personally to his literary opponents, he soon became the object of the most calumnious attacks. The public efforts of THE LANCET, however, triumphed within a comparatively brief period. Anonymous slanderers were silenced, and some of his opponents who had dared to step out from ambuscade, were driven from the field of contention, and betook themselves to an atmosphere of darkness, as the most fitting element for their malignant and assassin-like purposes. Of one of those valiant heroes, we have now to make especial mention.

After some half-dozen ricketty, staggering, journals had expired, the conductor, or, rather, the mis-conductor, of the yellow journal, known formerly to the readers of dulness by the title of the "London Medical and Physical Journal," was rendered conscious of the impending doom of that work. What was to be done? Several new weekly medical journals had been cut to atoms; some of the monthlies had expired; others were expiring. What, in short, was to be attempted, in order to maintain the corrupt establishments and pretended superiority of the BATS, from the weekly assaults of an independent medical journal, whose Editor was known to the profession and the community? Why, another weekly journal was commenced under the especial patronage of the corruptionists, and, as a portent of the "high moral feeling" with which it was to be conducted, it arose at once *out of the very hand of* CHARITY. It was indebted for its existence to the mental sagacity and pecuniary contributions of the BATS. Thus much we have learned from testimony delivered on oath by one of the parties engaged in this honourable undertaking. On the trial of the cause COOPER *versus* WAKLEY, the following question, in cross-examination, was put to Mr. BRODIE by the defendant:—

"*Question.*—Are you not at this time "contributing *pecuniary means* towards "the support of a journal opposed to THE "LANCET?"

"Mr. BRODIE.—No, I am not. When "the journal was *instituted*, I *did* contri- "bute, *with some others*, TO ENABLE "THE EDITOR TO SET IT ON FOOT. "*I know nothing of it since.*"*

Thus, the journal having had for its foundation the charitable contributions of some of our public medical functionaries, it was duly announced in the prospectus, as well as in advertisements, that it would be conducted with "a tone of high moral feeling." It is, however, but justice to Mr. BRODIE, to give him the benefit of his statement, "that he has known nothing of the work since its commencement." Hence we may conclude, that the quality of the "high moral feeling" which was really shown in the work, was not exactly suited to that gentleman's notions of morality and good feeling.

But it is not our business on this occasion to criticise the work, or to examine the motives or conduct of the persons who caused it to be first printed. We have another object in view just now,—that of proving by whom it has from first to last been conducted. An apology may appear necessary for entering at all on

* Verbatim Report of the Trial. 1829, 8vo, page 114.

such a subject, but when it is considered that the loathsome and stupid vehicle of calumny is published by the house of LONGMAN and Co. and is partly the property of that house—if that can be called "property" which is a source of constant pecuniary loss—that it was issued under the especial patronage of the BATS,—and that the conductor of the work, therefore, on all occasions endeavours to promote the sentiments and adopt the language of his employers, it becomes of importance to identify *the man*, in order that, by analysing his literary practices, we may form a judicious estimate of the motives and conduct of the entire party of corruptionists. There is another consideration which renders the question of *identity* one of importance. It may not be desirable that any other member of the profession should share the peculiar reputation which belongs to the Editor of the charity-established journal. In short, doubt should no longer be connected with the subject. It is high time (to quote his own words) that the "no man, nor woman neither," should be known to the medical community. The monster must be unearthed.

LO! there he is,—RODERICK MACLEOD!

Henceforth, therefore, upon the head of this being must fall the wrath of those whom he has so constantly vituperated. On many occasions we have adverted to RODERICK MACLEOD as the Editor of Messrs. LONGMAN'S publication, but never have we attempted to furnish our readers with proof that he is actually the party to whom the editorial writings in the "Gazette" should, in strict fairness, be exhibited. On the appearance, indeed, of his calumnies against the London University, we announced that RODERICK MACLEOD had been requested to discontinue his visits at the conversaziones held at that institution, but we did not say by whom that request was conveyed, or how it happened that the crimes of the "Gazette" led to the exclusion and punishment of MACLEOD. We now, therefore, furnish some particulars which will set at rest the question of identity with respect to the "highly moral" editor of the green journal.

RODERICK MACLEOD was invited to the evening meetings occasionally held in the London University. Some misrepresentations respecting an introductory lecture of Professor ELLIOTSON having been printed in the "Gazette," the Professor declared that he would not again attend at those meetings if MACLEOD were permitted to be present. Accordingly, Dr. ANTHONY TODD THOMSON, *his friend*, informed MACLEOD, that it was desirable for him to withhold his attendance. Why did Dr. ELLIOTSON fix on MACLEOD as the writer who had made false statements respecting his lecture, and had abused the University? Because that self-same MACLEOD had previously communicated with Professor ELLIOTSON respecting the publication of the Professor's lectures in the "Gazette."

A letter having appeared in the "Gazette," with the forged signature of Dr. O'SHAUGHNESSY, the Doctor communicated with MACLEOD, as the Editor of the "Gazette."

Mr. SNOW, surgeon, of Highgate, saw MACLEOD concerning a statement with respect to the "Finchley case," when MACLEOD wrote an explanatory editorial notice, which Mr. SNOW left for insertion at the house of the printer of the "Gazette," on his way into the City.

Having been threatened with the lash of a horsewhip by Mr. MACCHRISTIE, the valiant RODERICK ran off to the magistrates for protection, and did not deny having written the false statement of which Mr. MACCHRISTIE complained.

MACLEOD called on Mr. LAWRENCE, and asked the permission of that gentle-

man to allow him, RODERICK, to publish in the "Gazette" Mr. L.'s lectures on surgery. Afterwards, when Mr. LAWRENCE wished the publication of his lectures to be discontinued in the "Gazette," and wrote to MACLEOD to that effect. MACLEOD addressed a letter to Mr. LAWRENCE, in which he stated that if the lectures were discontinued in THE LANCET, he would discontinue them in the "Gazette."

After such evidence as this, it can scarcely be necessary to furnish additional testimony in proof of the identity of the culprit arraigned at the bar of professional opinion. We may pass over MACLEOD's "no-man-no-woman" reference, in a recent "leader" of the *Gazette*, to the three different articles penned by three different persons in relation to the late proceedings at the *Westminster Medical Society*; but as the "Gazette" has, in the most infamous manner, misreported Dr. JOHNSON, in order to make that gentleman state that he had made overtures to THE LANCET, had "entered into an *arrangement*" with THE LANCET, we shall mention one other fact, that it may be known who has really made a private friendly communication to THE LANCET, as nothing could be more false than to allege that Dr. JOHNSON represented to the members of the Society, that he had entered into an "arrangement" with THE LANCET, or said anything whatever to that effect. As nothing could be more false, as regards both fact and assertion, so nothing is more true than that MACLEOD himself would have been rejoiced—would have given his fingers—to have been a party to such an amicable "arrangement" with THE LANCET, as he now maliciously charges Dr. JOHNSON with having sought and consummated.

It will be recollected that in the autumn of 1830, a subscription was opened for the widow and children of the late Dr. NUTTALL, who had been a colleague of MACLEOD in the Gerrard-Street Dispensary. Owing to the benevolent, zealous, and indefatigable exertions of Mr. TUCKER, a respectable surgeon of Howland-Street, a considerable sum of money was collected for the objects of that gentleman's solicitude. While the subscription was in progress, Mr. TUCKER frequently came in contact with MACLEOD, and, after one of the interviews between this "moral" man and Mr. TUCKER, Mr. T. called at the residence of the Editor of THE LANCET, and stated that MACLEOD had been speaking to him on the subject of THE LANCET, and wished him to communicate to Mr. WAKLEY the "fact" that he, MACLEOD, had ceased to have any connexion with the "Gazette,"—that nearly all the articles against Mr. WAKLEY, which had appeared in the "Gazette," had been written by other parties,—certainly not by him, MACLEOD,—and that he, Mr. TUCKER, knew that MACLEOD was desirous that all hostilities between *him*, MACLEOD, and THE LANCET, should cease. We do not think it necessary to communicate with Mr. TUCKER on the propriety of making this announcement public, as the conversation was not made a confidential one, but actually passed in the presence and hearing of a third party—a gentleman with whom Mr. TUCKER subsequently entered upon a repetition of his statement.

The best evidence of the reply which this offer of "arrangement" received, is to be found in the pages of THE LANCET.

Unfortunately for MACLEOD, he is no lawyer. This proof of identity, as may be thus seen, has long been in our possession. It was not convenient to use it until the culprit was fully committed. The moral conviction, however, in this case, preceded the legal arraignment of the accused. The prisoner, *free from disguise*, is now called up for JUDGMENT.

Shortly after it was announced in The Lancet and the newspapers that the admirable lectures of Professor Grant would be published in this journal, there appeared in the "Gazette" a letter and editorial comments on an alleged connexion between the Professors of the University and The Lancet. When Professor Grant, the other day, delivered the last lecture of his course, that eminent and excellent man referred to the scandalous attack in the following terms. We feel assured that he will excuse us for detaching this portion of his concluding lecture, and printing it in the present number of our journal, because the circumstance to which he has alluded is of recent date; and, in calling for public notice, it demands, at the same time, that the exposure of such baseness as was exhibited in the "Gazette" should not be delayed. If the fragment be published out of place with respect to its proper situation in the course, nothing, in point of time, could be better adapted to existing circumstances than this condemnation, masculine and powerful as it is, of an anonymous paltry slanderer. The *utility* of the statement and comments we have felt ourselves called upon to make in the preceding article in this Number of The Lancet, will be instantly admitted on a perusal of this extract:—

Yet one word, Gentlemen, before we part, touching the publication of these lectures in The Lancet. The reports of them, drawn up by my able countryman and professional brother, Mr. Macchristie, are executed with a fidelity, fulness, and accuracy, which are to me remarkable, when I consider the novelty of these studies in our scientific institutions, and how little they are generally understood by our medical men, and when I look to the innumerable technicalities with which these lectures are replete, and the intricate discussions into which they have often led us. Indeed, in looking over his reports, I cannot perceive that he has omitted a single sentence, and scarcely even a word which I have spoken to you during this whole long course; a perfection in shorthand writing at which I had no conception that that most valuable art had yet arrived.

The engraved illustrations which accompany the printed lectures are due to the pencil of my intelligent and skilful pupil Mr. Townsend, who has frequently copied them from nature, and, considering his other academic studies, it must be acknowledged that they are executed with skill, judgment, and taste. I only regret that these oral demonstrations have not been more adequate to the importance of the subject and the character of the work in which they appear, and more worthy of the expense and care with which they have been laid before the public.

When I mentioned to you at the commencement of this course, Mr. Wakley's design to collect and print these lectures in the pages of his widely-circulated journal, I little anticipated that I could thereby have afforded occasion, even to the most ill-disposed persons, to wound the feelings of that gentleman. But I regret to find by the *Medical Gazette* of the 23rd of November last, that there have been some persons mean enough to make that simple announcement a pretext for harrowing up the feelings of Mr. Wakley by recalling assertions as false as they were malicious. It is ever the fate of independent journalists who stand aloof from selfish and servile ends, and criticise with equal severity the high and the low, to live in constant warfare, and to become the objects of watchful malice, jealousy, envy, and detraction.

These captious hirelings have found much fault with my applying the term "learned" to the Editor of The Lancet, but I am confident that none capable of appreciating intellectual labour would refuse that appellation to one who, by his own exertions, has done so much to spread and perpetuate medical information, which, without him, must have been lost to the profession and to science, and whose pen has never been at rest in exposing the defects of, or in suggesting improvements in, our medical institutions, in encouraging genius, in rewarding merit, in reproving the ignorant and the arrogant, and in forwarding the general interests of our profession. But, perhaps, this anonymous person of the *Gazette* would have thought Mr. Wakley more worthy of such a title had his claims to it been founded on the discovery of a universal antidote in a "*Pilula ex mica panis*," or some equally efficacious nostrum of an ignorant quack.

Every low epithet of scurrility and abuse, not excepting even those of "falsehood," "forgery," and "blasphemy," has,

in these anonymous articles of the *Gazette*, been wantonly vented against the Editor of THE LANCET; and such a publication it is said I commended to my class, in consequence of my vanity being gratified by the manner in which my name has been mentioned in some of the advertisements of THE LANCET; and the same impudent menials have accused me of entering into a secret compact with Mr. Wakley to puff this University.

You will ever observe, that the keen edge of satire falls harmless, and turns back upon itself, when tempered with such rudeness and vulgarity: just criticism shuns the heat of malice and vituperation, which evaporates its true spirit. I regret to say that I have never seen that highly-talented and learned gentleman but once in my life, and I have never had a word of written correspondence with him on that or any subject whatever. The other statements and insinuations relating to me in that *Gazette*, are equally false and impertinent. I have never been guilty of courting the praise or shunning the criticism of any journal. A *lancet* which is in constant employment must inflict many a wound, but if it be guided even with moderate skill and judgment, those whom it cuts must be benefited by the bleeding. The best criterion of the merits of a public journal, I have ever considered to be the opinion and support of the public; and the long-continued and vast circulation of THE LANCET is the best testimonial of the estimation in which it is held among medical men. Had that journal been the production of some servile minions, hired to forward the ends of private interest, or party spirit, or corrupt monopolies, or place-hunting adventurers, and to slander systematically the rising and liberal institutions of their country, it must long since have sunk, by exciting the contempt and disgust of all sensible men, or it would now have lingered on a miserable existence, prolonged only by the precarious gleanings of its slander, detraction, and falsehood. THE LANCET, every one knows, was commenced and is conducted by a private surgeon, and it presents a phenomenon perhaps unique in the history of our literature,—of an extensive weekly periodical, devoted to one department of science, which is confessed, even by its enemies, to spare no man, and to have no patron among the "great," and which yet for ten long years has fought its own battles for the diffusion of useful medical knowledge and the reform of medical abuses, and with so much success, that now, when its greatest victory is in prospect, our public bodies seem to vie with each other in their endeavours to accomplish its objects, and to rob that journal of the glory of its conquest.

With these remarks, so foreign to our proper subject that I beg you to excuse my introducing them, I conclude the present course, and wish you all success in your future pursuits, and much happiness and usefulness in your professional career. (*Much applause.*)

WESTMINSTER MEDICAL SOCIETY.

Saturday, January 11th, 1834.

DR. GEORGE GREGORY in the Chair!!!

PHTHISIS.

THE minutes of the last meeting were confirmed without comment. The first subject to which attention was afterwards drawn, was the removal, by Dr. JEWEL, of a very large pessary from the vagina of a female, in which situation it had been for several years. Mr. COSTELLO, Dr. JOHNSON, and Dr. JEWEL, subsequently made some observations upon the removal of accumulated catamenia, and the passing of bougies.

Some important practical remarks were afterwards elicited by a remark of Dr. JOHNSON, regarding pains in the breast as a diagnostic of disease of the uterus.

Dr. EPPS noticed that the subject of the sympathy between the genital organs and the lungs was one of great interest, and, in illustration, mentioned that in many cases of phthisis the development of the change in the expectoration from the frothy mucous character to the purulent, often took place exactly at the menstrual period; and this always led him to look upon the keeping up of the menstrual discharge at the incipient stage of the disease as of the highest importance. He further stated that another year's experience had satisfied him still more of the accuracy of a view which he stated last year, and in which he was then corroborated by Dr. JOHNSON, namely, that in the first stage of tubercular phthisis, no plan of practice is so successful as *repeated small bleedings*.

Dr. JOHNSON stated that he still was satisfied that this was the best practice, and made some practical remarks upon the importance of distinguishing the stages of phthisis one from the other.

Dr. COPLAND asked Dr. Epps how he would produce the menstrual discharge in such cases.

Dr. EPPS stated that it was a matter of much difficulty. The only plan that he knew of consisted in using *collectively* the

means generally used for the purpose of promoting the menstrual discharge, and using the means just before (a few days) the expected menstrual period,—thinking that the effect of these means is not obtained when used for a length of time before the menstrual period.

Dr. JOHNSON then noticed a fact illustrative of the mildness of temperature at Hastings. A patient whom he had visited there lately kept a thermometer, which, on an average, during the last three winter months, had not been below 63 deg.

Mr. COSTELLO, in the course of the evening, stated that he should next Saturday place upon the table some papers obtained from France relative to the subject of medical reform.

To the Editor of THE LANCET.

SIR,—I deplore, for the credit of the Westminster medical association, that on Saturday evening last they should have black-balled so distinguished an anatomist as Mr. Dermott. Let it not be supposed that I am gratuitously impertinent in publishing my opinions on this event; it is true that every club has a right to elect or to refuse any candidate for its membership; but it is no less true, that every medical man has a right to sympathize in whatever affects immediately or remotely the interests of the profession. I will not attempt to eulogize Mr. Dermott as an anatomical teacher; he has been long appreciated as an ornament to science; nor need I allude to his uncompromising integrity of heart, which I dare say is equally acknowledged; but he is known to most of the selfish conservators of too-long-tolerated abuses, as an unflinching medical reformer; it is therefore perfectly natural that he should find antagonists. It is indeed lamentable for poor humanity, that many of us are so ready to entertain a rancorous hostility against those who deserve our warmest esteem; we envy the splendour of talent, and we hate nothing so cordially as the most upright intentions. "Le mal que nous faisons, ne nous attire pas tant de persecutions et de haine, que nos bonnes qualités." Nor let it be supposed, Mr. Editor, that it is mere egotism which incites me thus to address you, for I assure you that the occasion gives me real regret; yet permit me to state to you, that I was formerly, during a long period, a pupil (and I believe a favourite) under the celebrated Joshua Brookes; but not feeling sufficient courage to face that dread tribunal of every young aspirant, the Royal College of Surgeons, I went to Mr. Dermott, and I shall always retain the most grateful recollection of his indefatigable exertions in my instruction; he taught me to arrange my anatomical knowledge; he gave me confidence, and on my going up for my examination (I mention it still with triumph) I was proposed only six questions; I was enabled to reply with promptitude and precision; each of my Examiners emphatically said, "I am perfectly satisfied with this gentleman." Since that period, I have passed nearly four years on the continent in the prosecution of my studies in medicine. I am a Doctor of two celebrated universities, and I have also the honour to belong to three learned societies; but in no instance was there a single black-ball thrown against me on my different elections, simply because I was almost unknown, and, consequently, had no enemies to encounter. I had merely the advantage of being warmly recommended by a few influential members. And now, on my return to my native land, I think it no discredit to have resumed my anatomical studies under my highly-valued preceptor Mr. Dermott.

Do me the favour, Mr. Editor, to give my letter a place in your columns. Perchance it may meet the attention of some of the members of the Westminster medical association. I wish to suggest to them (begging their pardon), that if about three-fourths of their enlightened body will follow the example which I tender them, it may redound more to their profit, and more to their peace of mind, than persisting to foster uncharitable feelings against a highly-meritorious individual. I am, Sir, your most obedient servant,

HAMLET GRETTON, M.D.

16, Church Street, Soho, Jan. 14, 1834.

ROYAL COLLEGE OF SURGEONS.

UNROLLING THE COVERINGS OF A MUMMY.

ON Thursday, a mummy was partly divested of its envelopments in the theatre of the above building, in the presence of a large concourse of members of the College, and many titled, legal, and clerical individuals. At one o'clock the President of the College, Mr. GUTHRIE, entered the theatre, when Mr. PETTIGREW, to whom was deputed the task of unrolling the investments, addressed the assembly, giving a general sketch of the ancient process of embalming,—stating the different methods pursued in performing it, and the rank of those on whom it was most frequently employed, with particulars of the

various mummies he had possessed opportunities of examining, and other suitable observations relative to the subject.

The bandages around the body proved to be numerous and long, and had evidently been adjusted and applied with the greatest care. Heat had clearly been used, and the bituminous matter covering the body adhered so closely as in some parts to destroy the natural texture of the external cuticle. The examination was not, therefore, proceeded with to its full extent, the time allotted to the undertaking not being sufficient to complete it. It was subsequently announced by the President, that those gentlemen who had been disappointed (and they were many) in obtaining a perfect view of the process, so far as it had been carried, would have an opportunity of seeing the mummy at leisure on any future Monday, Wednesday, or Friday, between the hours of twelve and four of the clock. We may take advantage of the offer, and report in another number.

UNIVERSITY OF LONDON.

Some of the most agreeable and instructive of the winter-evening assemblies of scientific men held in the Metropolis, take place at this institution. The doors of the University were opened for one of these *reunions* on Wednesday evening last, when the mental entertainments of the occasion commenced in the great theatre of general literature, by the delivery of an admirable popular lecture by the Professor of Geography, on the voyage and discoveries of Captain Ross, the expedition of search by Captain Back, and the stupendous and enterprising journey of Captain Burnes in India. The assembly comprised, among several hundred visitors, the bulk of whom were medical gentlemen, many of the most scientific characters of the metropolis, Cabinet Ministers, Members of Parliament, artists, and men of *virtu*, who entered into the spirit of a brilliant conversazione. The gratifying intellectual scene was protracted until a late hour, by adjournment to the museum, where suitable refreshment was provided for the company. The occasion appeared to afford great satisfaction to the celebrated and uncelebrated illuminati who were present. The Bishop of Chichester and Sir Astley Cooper formed part of the throng. Some experiments relative to the magnetic pole were performed on one of the tables. The original geographical drawings made by Captain Ross to illustrate his discoveries in the polar regions attracted general attention.

INTERCEPTED LETTER.

ON THE DUTIES OF A LONDON PHYSICIAN.

"My dear young Friend,—How strange that it should so happen, that whilst I was quietly seated for the evening, writing you on what I conceived to be the duties of a London physician, and whilst the word 'matrimony' was at the point of my pen, I should receive a command to attend instantly at Kensington Palace! Now, the management of *your* matrimonial alliance will require great nicety, tact, and delicacy, much of your future good luck depending upon the connexions, conduct, and, of all things, the *fortune* of your lady. Her personal appearance signifies little, provided she has got plenty of money. A few thousands are not so easily made by fees now-a-days, at least, in the *legitimate* way; and you will find ten thousand pounds, or thereabouts, a good foundation to work on. Age is of little consequence; but I would not have the lady so old as not to be likely to have, at least, three children,—say two sons and one daughter, as it may happen. Women do not do well unless they have a family. If she be a woman of rank, so much the better. An honourable lady became attached to some one whom I need not mention more particularly, much to his comfort and happiness, and no man ever had a better wife; all her relations and connexions employing him as a physician, and a profitable set they were. You ought not to let many years pass by without forming a matrimonial union, as there are certain departments of practice to which a physician is seldom called unless he have a wife: you will at once see what the public mean by this, and you therefore should marry before long. I remember an incident of a disagreeable, and, as it might have turned out, of a serious consequence, which happened to that truly good man the late Doctor John Clark, a most eminent midwife, and which is an undeniable fact in proof of my position. The doctor was on one occasion sent for to see a lady in hard labour, but being out of town, his servant recommended the patient to apply to another doctor who lived close by. The lady accordingly sent to the practitioner, and he being a stranger to her, she desired the messenger to make previous inquiry whether he was a married man or not. The answer which the messenger received was this,—'that the doctor was not a married man, but that a lady lived with him, which was the same thing.'

"Whenever you have the good fortune

to marry, it would not be becoming even of me to say anything respecting the importance of your observing the strictest propriety and circumspection in your conduct towards the sex in general. Anything like the *liberal* principles of the present day in these matters will not suit a London physician. You may get a few fees from a set of *roués* and light-headed women, but the greatest portion of your income ought to depend on the good opinion of the pious and the virtuous. A most particular friend of mine, with all the world before him, had, upwards of twenty-five years ago, a very close shave, and was nearly driven to the wall, by the discovery of a *petite affaire*. He was a quick, sharp, little fellow, then in the prime of life, married to the sister of a noble peer, very active, keen, and ambitious, both for fame and emolument, with a great deal of *mécanceté* full of pleasantry, a perfect courtier, and, with all, one of our Fellows! There was the 'proof-positive' of an eye-witness,—the baronet himself. Had it come to a court of law he must have been ruined for ever; but the whole matter was, by a most clever and judicious manœuvre of the learned doctor, hushed up; not however without, as my old friend Baillie observed, costing him 'a lump of money,' which was a sad sacrifice to him, and which ought to afford you as severe a lesson as it did me, and show you on how little a thing hinges the fate of man! I will take an early opportunity of pointing out to you the advantages which, by a little management, you may derive from the 'Fellowship,' and the high position and dictatorial manner you must assume with the licensed physicians; and I will point out to you the unbounded influence which a spice of flattery and a courteous manner have in securing patients, and increasing the number of fees. I am perfectly convinced, that you are impressed with the sincere and confidential manner with which I write to you on all these subjects, and beg you to believe me, with sentiments of sincere friendship, and with every good wish for your success,

" ——— ———.

" London, Jan. 7. 1834."

SUNDAY DOINGS IN CONDUIT-STREET.

To the Editor of THE LANCET.

SIR,—The practice detailed by "Fair Play" has not been confined to gratuitous patients merely. I know of two cases, and have heard of several others, where the underling has been thrust upon respectable patients.

In one instance he visited with Sir Astley as dresser, and continued to visit and send medicines for a day or two, but the trick was seen through, and he was turned out. In the other, he called at the patient's residence after the patient had been to the house of Sir Astley, and continued to visit and send medicines.

This conduct has excited the deep indignation of the profession, many of whom have been thus unfairly supplanted. You have ably supported our rights on former occasions, and we trust you will not be neglectful of us in this instance.

Verily, Mr. Editor, there needs a reform, when a man who has been considered the pride and ornament of his profession, and who has made the largest professional fortune obtained since the days of Radclyffe, adopts acts which have been previously considered as the last resource of the unprincipled and needy.

" Who would not laugh if such a man there be?
Who would not weep if ATTICUS were he?"

Your obedient servant,

A FRIEND TO FAIR PLAY.

January 14, 1834.

*** In selecting this letter for insertion, out of a great number on the same subject, we are induced to ask,—What is the name of the individual who thus officiates for Sir ASTLEY COOPER in Conduit-Street? It is, we think, but just to Sir ASTLEY to state, that it is our decided conviction that the worthy baronet is entirely ignorant of the system of humbug which has been engrafted on his professional character and reputation. What we now want, however, is, the *name* of the real culprit.—ED. L.

TO A LECTURER ON ANATOMY.—Ever since you violently separated me from my brother's protection, and then annually exposed me to the gaze of a large class of anatomical students, pointing out to them my weak points, and stating when they could best operate on me, you have never heard me utter a single murmur; but since it has pleased you to add insult to violence, by calling me out of my proper name ("Os Parietalis") not only in the theatre, but in print, I can no longer refrain from complaining, but am still obliged to subscribe myself your very submissive servant,

OS PARIETALE.

Museum, Guy's Hospital, Jan. 11th, 1834.

LITERARY NOTICE.—In the press, and will be published in a few days, "Rowbotham's New and Easy Method of Learning the French Genders in a few Hours."

A B C.—A prosecution, under the circumstances stated, cannot be sustained.

An immense number of Correspondents will see, that want of room prevents us from publishing in this page the replies we have prepared to their queries.